

USFWS Critical Habitat


 California Tiger Salamander

 FERC Project Boundary (No. 2299)

 5 Mile Buffer of Project Boundary

 Transmission Line

 Highway

 Road

Land Ownership

 BLM

 State

0 1 2 3 Miles

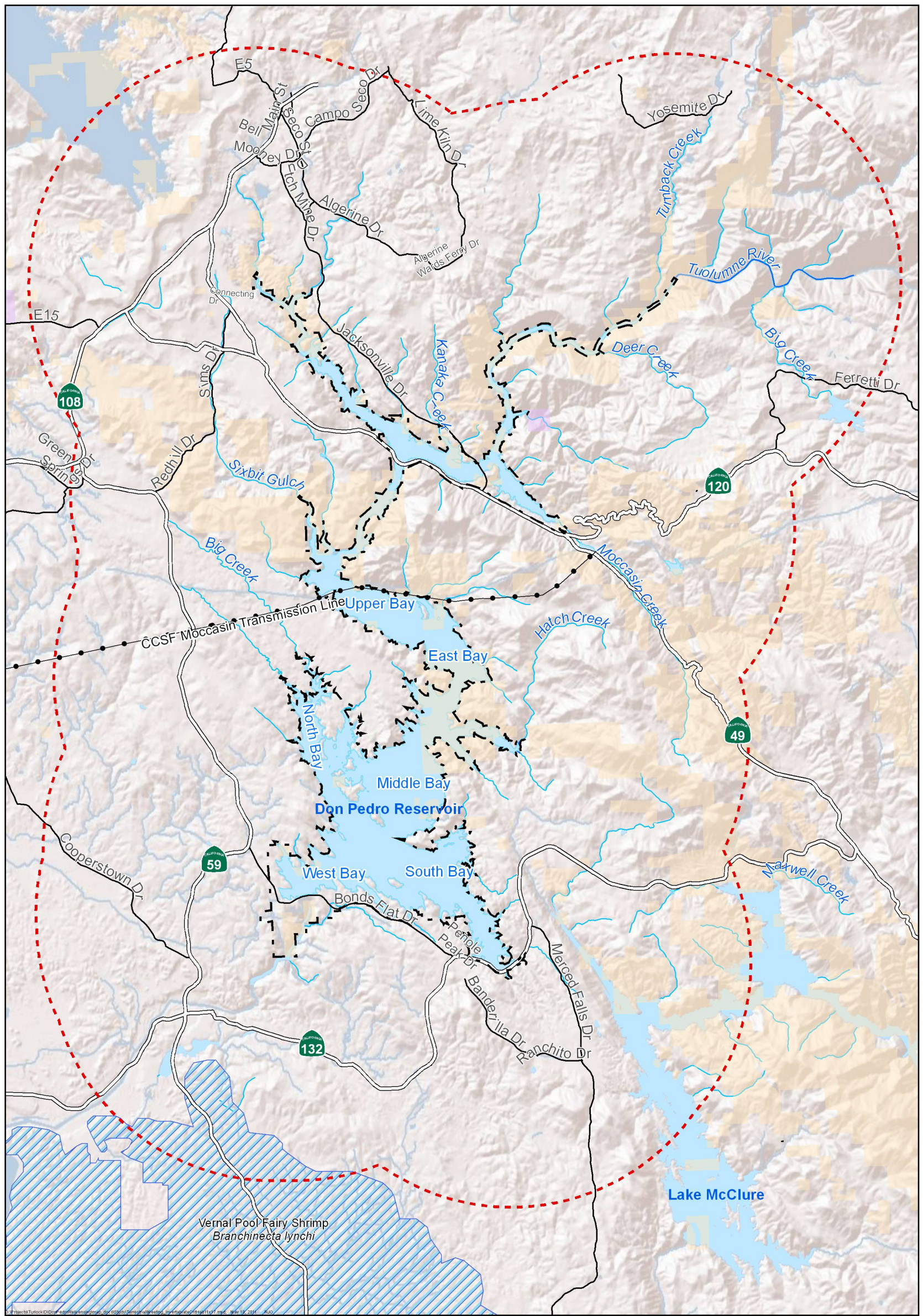


**US Fish and Wildlife Service
Critical Habitat within 5 Miles
of the Project Boundary - Amphibians**


**Don Pedro Reservoir Project
FERC Project No. 2299**


Map information was compiled from the best available sources. No Warranty is made for its accuracy or completeness. Data Sources: Critical Habitat - USFWS; Roads, Streams - ESRI 9.3 Data; Ownership, PLSS - CA BLM; FERC Boundary, Recreation, Facilities: TID/MID. Data is CA SPCS, zone III, ft. Contour interval is 50 ft (NAVD 88).


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USFWS Critical Habitat


 Vernal Pool Fairy Shrimp

 FERC Project Boundary (No. 2299)


 5 Mile Buffer of Project Boundary


 Transmission Line

 Highway


 Road

Land Ownership

 BLM

 State

0 1 2 3 Miles

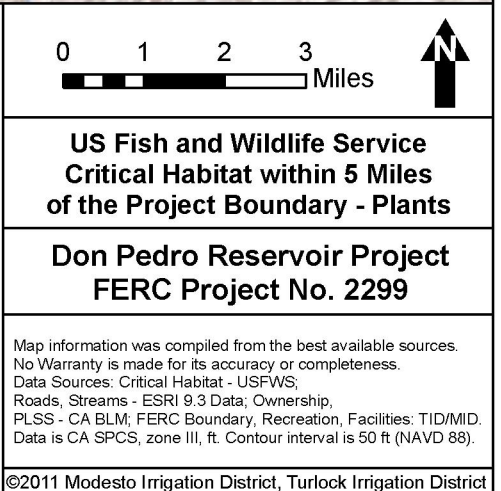
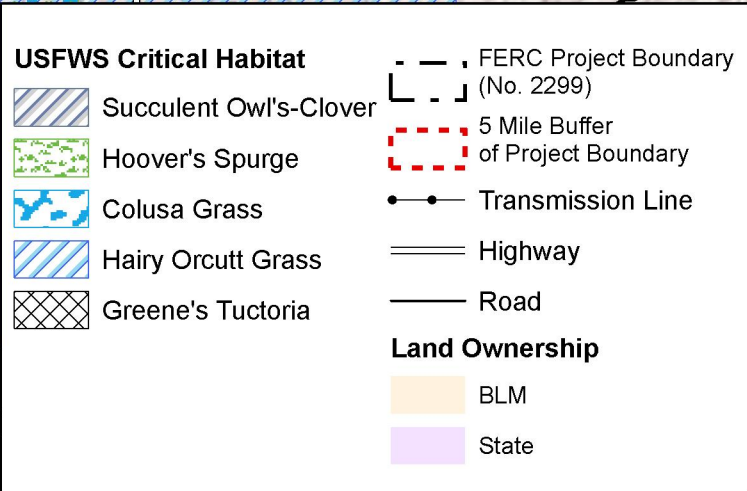
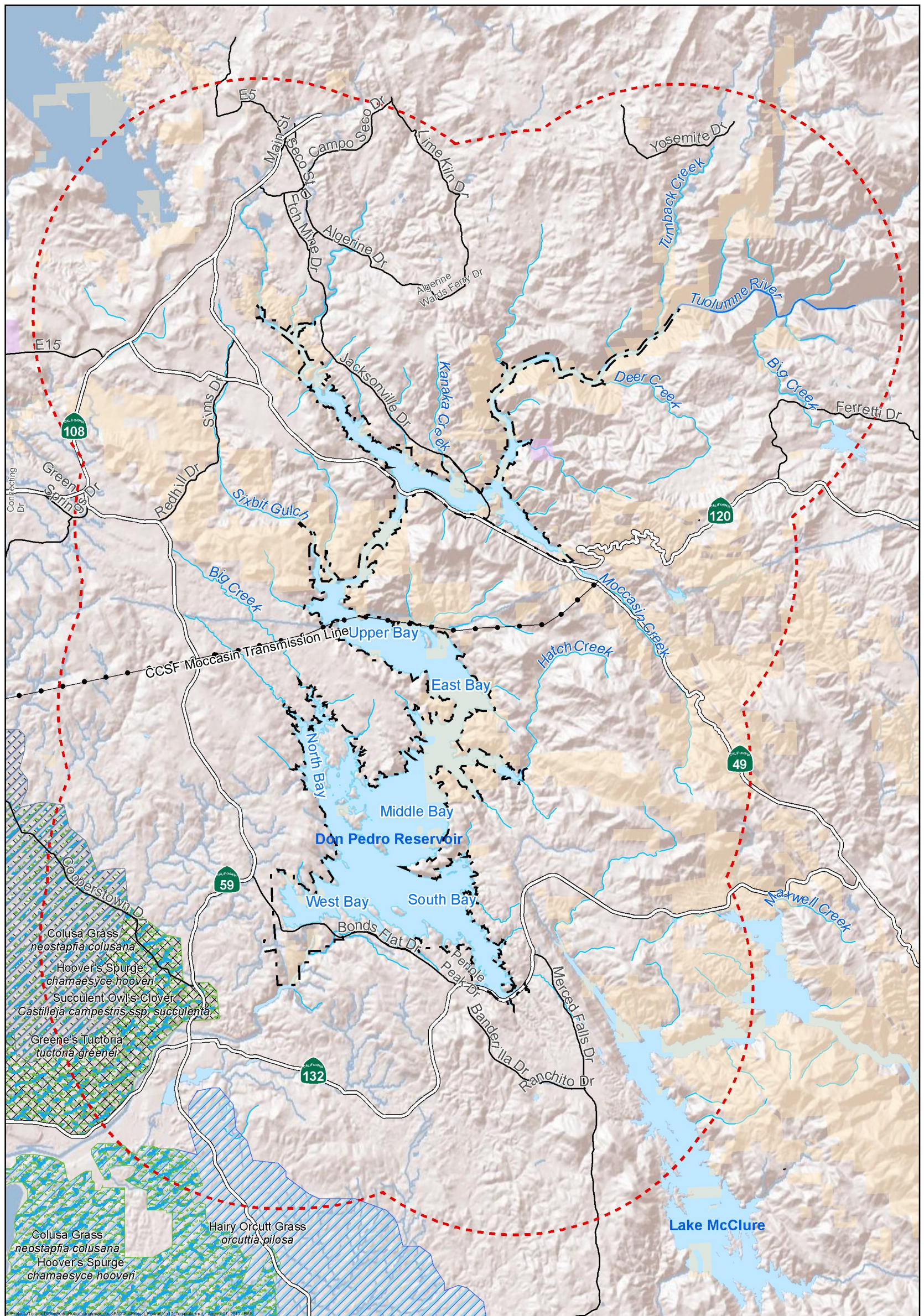


**US Fish and Wildlife Service
Critical Habitat within 5 Miles of
the Project Boundary - Invertebrates**

**Don Pedro Reservoir Project
FERC Project No. 2299**

Map information was compiled from the best available sources. No Warranty is made for its accuracy or completeness.
Data Sources: Critical Habitat - USFWS;
Roads, Streams - ESRI 9.3 Data; Ownership, PLSS - CA BLM; FERC Boundary, Recreation, Facilities: TID/MID. Data is CA SPCS, zone III, ft. Contour interval is 50 ft (NAVD 88).

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DRAFT

**TURLOCK IRRIGATION DISTRICT
AND
MODESTO IRRIGATION DISTRICT**

**DON PEDRO HYDROELECTRIC PROJECT
FERC NO. 2299**

Bathymetric and Surface Temperature Data Collection for Don Pedro Reservoir

May 2011

1.0 Project Nexus

Turlock Irrigation District and Modesto Irrigation District's (TID and MID or Districts) continued operation and maintenance (O&M) of the Don Pedro Hydroelectric Project (Project) has a potential to affect water temperature. In particular, stratification of the reservoir affects the amount of cold water stored in Don Pedro Reservoir.

The Districts plan to develop a 3-D water temperature model that requires bathymetry information as input. Bathymetric data will also provide a better understanding of the elevation-reservoir storage relationship of the reservoir.

2.0 Resource Management Goals of Agencies with Responsibility for the Resource to be Studied

The Districts believe that two agencies have jurisdiction over water temperature in the reservoir: (1) the California Department of Fish and Game (CDFG) and (2) the State Water Resources Control Board, Division of Water Rights (SWRCB). Each of these agencies and their jurisdiction and management direction, as understood by the Districts at this time, is described below.

CDFG's goal is to preserve; to protect; and, as needed, to restore habitat necessary to support native fish, wildlife and plant species.

SWRCB has authority under the federal Clean Water Act (33 U.S.C. §11251-1357) to restore and maintain the chemical, physical, and biological integrity of the Nation's waters. Throughout the relicensing process, the SWRCB maintains independent regulatory authority to condition the operation of the Project to protect water quality and the beneficial uses of stream reaches

consistent with Section 401 of the federal Clean Water Act, the Regional Water Quality Control Board Basin Plans, State Water Board regulations, CEQA, and any other applicable state law.

3.0 Study Goals and Objectives

This study is needed as input for the proposed 3-D water temperature model and to update the historical reservoir elevation-storage curve. Thermal data will support calibration efforts for the 3-D water temperature model.

4.0 Existing Information and Need for Additional Information

Previous detailed bathymetric data are not available for the Don Pedro Reservoir. It appears that the only data available to define the original reservoir bathymetry is USGS 15-minute quadrangle maps developed prior to the construction of the new Don Pedro Project. These are not of sufficient detail to define the current bathymetric characteristics of the reservoir.

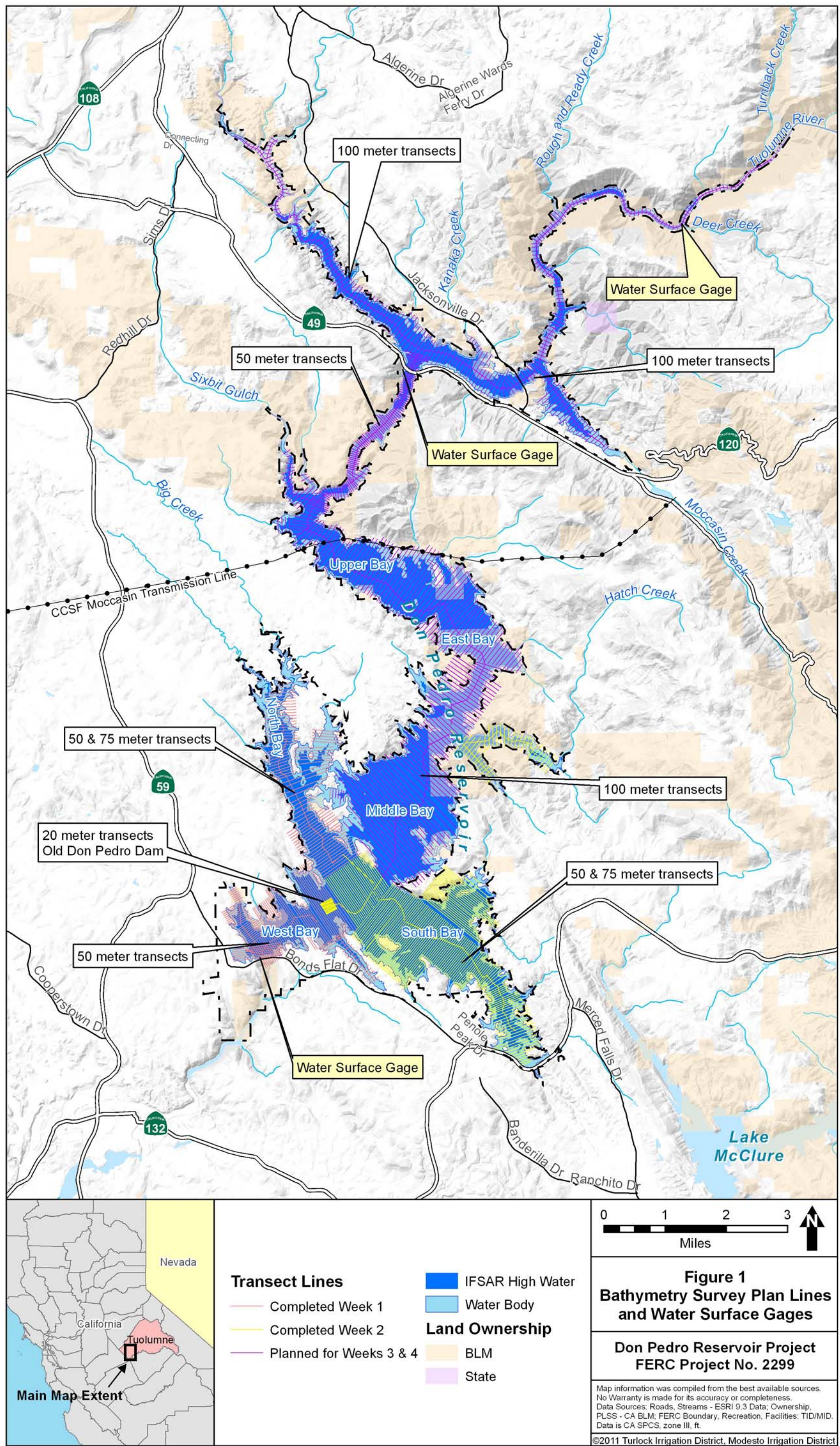
CDFG has collected monthly water temperature profiles from six locations in Don Pedro Reservoir for several years and profiles collected by CDFG, from 2004 through and including the present, effectively characterize Don Pedro Reservoir's thermal trends. A seventh profile location, upstream of the old Don Pedro Dam, would provide insight into temperature dynamics at this location. Profiles collected during the bathymetry fieldwork will provide a temperature-related link between the bathymetry data and CDFG's long term data-set.

5.0 Study Methods and Analysis

Bathymetry data collected with the reservoir water surface at approximately elevation 790 feet (ft) will be combined with IFSAR topographic mapping, obtained by the Districts' when the water surface elevation was at approximately 760 ft, to develop a full description of the reservoir geometry and depth-area-storage relationships of the entire Project Boundary.

5.1 Study Area

This study will take place at Don Pedro Reservoir in Tuolumne County, California. The study area consists of Don Pedro Reservoir below the Project Boundary at an elevation of approximately 860 ft, as depicted in Figure 1.



5.2 General Concepts and Procedures

The following general concepts apply to the study:

- Personal safety is an important consideration of each fieldwork team. The Districts and their consultants will perform the study in a safe manner.
- The Districts will make a good faith effort to obtain permission in advance of performance of the study to access private property where needed. Field crews may make minor modifications in the field to adjust to and to accommodate actual field conditions and unforeseeable events. Any modifications made will be documented and reported in the draft study reports.

5.3 Study Methods

The plan for developing the bathymetric model of Don Pedro Reservoir is presented below in five subsections: (1) preparation, (2) field data collection, (3) data processing, (4) quality assurance/quality control, and (5) documentation and reporting.

5.3.1 Preparation

Before data collection begins, transects spaced at 50, 75, 100 meter intervals oriented approximately perpendicular to the longitudinal axis of the reservoir will be established using the bathymetric data collection software, Hypack. In addition to the standard transects, at least one perpendicular “tie line”, oriented approximately parallel to the longitudinal axis of the reservoir will be established to ensure inter-transect data consistency. Transects will cover the entire reservoir at the water elevations observed during the time of the field data collection.

The location of the Old Don Pedro Dam, inundated by the construction of the new dam, has been estimated using historical USGS topographic maps. A 20 meter transect spacing will be developed in the area of the Old Don Pedro Dam to establish the geometry and location of the old dam.

5.3.2 Field Data Collection

5.3.2.1 Bathymetric Data

The technique that will be used for data collection employs precision depth sounder and navigation systems aboard an outboard powered 19-ft Johnboat, in conjunction with vertical control to determine the elevation of the water surface at the time of the survey. Vertical control and water surface elevation data will be taken from the gages at the Don Pedro Dam, the Highway 120/49 Bridge and the Wards Ferry Bridge. The gages at the two bridges will be used to establish vertical control in the upstream portion of the Don Pedro Reservoir. Temporal and

spatial variations in water surface elevation throughout the bathymetric survey will be taken into account in the data processing as explained below.

Water depth will be measured using an Airmar B258 1kW dual frequency transducer and a Foruno FCV-585 digital depth sounder (or equivalent), with a vertical resolution of 0.1 ft. The depth sounder will be deployed aboard the Johnboat that will navigate along predetermined transects. Transect locations may be adjusted in the field to accommodate shallow water, in-water structures, marinas, and/or recreational activities.

Soundings will be taken at approximately 1 second intervals and the boat speed will be set to ensure that bottom features will be appropriately sampled (typically, at least 1 sounding is taken for every 2 linear meters along the vessel track). The boat will be navigated using a differential Global Positioning System (DGPS), and the position of each sounding will be determined using the DGPS system. The DGPS will provide better than 1 meter circular positioning accuracy. All depth and horizontal positioning data will be recorded digitally in the field as a series of points with x-y-z coordinates, using a rugged field notebook PC running Hypack Hydrographic Survey software (or equivalent).

5.3.2.2 Reservoir Temperature Data

Surface water temperature will also be recorded concurrently with the bathymetric data and recorded digitally using the Hypack software. Temperature data will be collected using a Falmouth Scientific Ocean Temperature Module (FSI OTM). The accuracy FSI OTM is ± 0.005 degree Celsius temperature.

Vertical temperature profiles will also be collected at the six CDFG profile stations and one additional location just upstream of old Don Pedro Dam, to capture any influence of the old dam on reservoir temperature. During each week of surveying, water temperature profiles (along with dissolved oxygen), will be taken at the nearest predetermined profile location. A weekly interval is sufficient because reservoir temperature is not dynamic enough to justify an increased frequency.

5.3.2.3 Water Surface Elevation Data

Reservoir water level elevations will be verified throughout the study. Water surface elevations near the dam of the reservoir are routinely measured and recorded by TID. Water surface elevation gages will be installed at two other locations, where benchmarks provide vertical control for combining all elevation data to a common datum: (1) Highway 120/49 Bridge and (2) Wards Ferry Bridge. All vertical control will be converted to match the vertical datum of the gage at Don Pedro Dam, which is NGVD 29. The three water surface gages will provide continuous data during the bathymetry survey for data processing.

5.3.3 Data Processing

5.3.3.1 Bathymetric Surface Development

The data will be processed using the Hypack software and exported to a table that can be imported into GIS. Elevation values for each point will be calculated in a spreadsheet by first correcting the depth of the reading to include the known submergence value of the transducer and then subtracting the depth of the sounding from the water surface elevation of the reservoir according to the nearest gage reading from the same day and time.

Remotely sensed data will be used to supplement the bathymetric data collected in the field. Previously obtained Digital Terrain Model (DTM) data will be integrated with the bathymetric model. These data were collected in August of 2004 by the vendor Intermap using interferometric synthetic aperture radar (IFSAR). The water surface of the reservoir at the time the DTM data were collected was 760 ft and extends upwards to well above the Project Boundary elevation. The DTM will assist with defining the reservoir geometry at water levels above that obtained by the bathymetric survey. In the instances of overlap in the topographical elevations of the DTM and elevations covered by the bathymetric survey, the DTM will provide information that may assist in the interpolation of the surface in between the transect points collected in the field.

A contour line at maximum water level will be generated using a GIS contouring tool with the DTM. It will be visually checked and modified as needed using a horizontally more accurate high-resolution aerial image. The field collected points, the DTM surface data below the high water contour and the maximum water contour will then be used to interpolate a reservoir geometry model in GIS.

The bathymetric survey elevation data will be developed by the ESRI geoprocessing tool “Topo to Raster”. Contours will be developed from the surface using ESRI contouring tools and displayed at an appropriate resolution for the maps that will be included in the final report.

5.3.3.2 Temperature Data Processing

Surface water temperature data will be plotted and contoured using Surfer (by Golden Software). Temperature data collected during time intervals of two to four hours will be mapped separately to constrain the diurnal temperature variation. The resulting temperature contours will be shown on a series of maps of the reservoir.

Temperature data collected during time intervals of two to four hours will be mapped separately to constrain the diurnal temperature variation. The resulting temperature contours will be shown on a series of maps of the reservoir. Vertical temperature profiles will also be plotted and a map

showing the location of the vertical profiles will also be produced. Surface water temperature data and temperature profiles will be used to assist in the 3-D temperature model calibration.

5.3.4 Quality Assurance/Quality Control

Data quality will be assured through following manufacture's instructions and periodically verifying data values through an alternative measurement. Throughout the survey, the depth measured by the sounder will be periodically compared to the actual depth. The actual depth will be measured by either lowering a "bar" beneath the sounder or by direct measurement of the bottom with a lead line or pole. Measurement of the "draft" or the depth from the water surface to the face of the transducer will also be recorded. All measurements will be recorded in the field notebook.

Quality Assurance will be performed by an independent reviewer. A three step approach will be used for quality assurance of the bathymetric survey data. The first step is a review of the field methods and materials. The second step is checking the edited raw data. Finally, the methods used in the production of the final deliverable will be checked.

Review of field methods will include a check of any "bar checks" performed in the field. A bar check compares the depth measured by the sounder to the actual depth, measured physically. The specifications of the sounder and GPS used in the survey will be reviewed to confirm the accuracy of the data as reported. The water surface elevation data at the three gages will be checked for consistency.

The next step is to check the processing of the raw data. Any data with GPS error or sounding error that were flagged accordingly and deleted prior to contour plotting will be checked to confirm that the deletion was appropriate. Soundings will be spot checked for consistency. The crossing of transects and tie-lines will be reviewed to ensure that the sounder recorded similar depths at the intersection of survey lines. If any sharp differences in depth at adjacent points are present, they will be identified as either an error or a real feature.

The last step is a check of the final deliverable. Once the field methods and raw data have been reviewed, the production of contours or a bathymetric surface relative to a know datum will be checked. Calculation of the bottom elevation from sounding depths will be reviewed to ensure corrections for the draft and water surface elevation were properly accounted for. The method of interpolation and setting used to in the interpolation will be reviewed to ensure that reasonable contours are generated. Contours created using interpolation will be checked against actual soundings to verify that the interpolated surface is reasonable. Finally, contours will be checked against any previous studies for consistency.

5.3.5 Documentation and Reporting

A report will be developed that documents all methods and results. Contours derived from the use of the bathymetric and IFSAR data will be displayed in maps of appropriate scale. Maps showing coverage of the depth sounding points will also be included. In addition to the maps, a table showing area and storage volume for each two-feet of reservoir elevation will be developed and included in the report. Storage volume will be plotted against elevation and compared graphically to the reservoir area-capacity curve presented in the PAD. Vertical temperature profiles and sample surface temperature plots will also be provided.

6.0 Schedule

Surveys are planned to be completed during the month of May, 2011. IFSAR data has been obtained. Data compilation and mapping will occur from June through September, 2011. Final checking and review will occur in October and November, 2011 and final maps produced by the end of 2011.

7.0 Consistency of Methodology with Generally Accepted Scientific Practices

The methods presented in this study plan are consistent with those used in recent relicensings in California including most recently for the Merced Irrigation District's Lake McClure and McSwain Reservoir. Additional surveys with similar methodology include the Yuba-Bear/Drum-Spaulding Project's Lake Spaulding, Rollins Reservoir, Bowman Lake, Jackson Meadows Reservoir, Fordyce Lake, and Lake Valley Reservoir.

8.0 Deliverables

The Districts will make the draft report available to relicensing participants following internal quality assurance review. The final report will be provided along with the elevation and temperature data in GIS files. These GIS files will be used in developing the 3-D Temperature Model.

9.0 References

ESRI ArcGIS 10 <http://help.arcgis.com/en/arcgisdesktop/10.0/help/index.html>

Golden Software Surfer <http://www.goldensoftware.com/products/surfer/surfer.shtml>

Intermap <http://www.intermap.com/>

From: Staples, Rose
Sent: Tuesday, May 31, 2011 2:21 PM
To: Staples, Rose; Alves, Jim - City of Modesto; Asay, Lynette - N-R; Aud, John - SCERD; Barnes, James - BLM; Beuttler, John - CSPA; Bond, Jack - City of Modesto; Boucher, Allison - TRC; Boucher, Dave - Allison - TRC; Bowes, Stephen - NPS; Bowman, Art - CWRMP; Brewer, Doug - TetraTech; Brochini, Anthony - SSMN; Buckley, John - CSERC; Burt, Charles - CalPoly; Carlin, Michael - SFPUC; Catlett, Kelly - FOR; Charles, Cindy - GWWF; Cory, Philip - TNC; Costa, Jan - Chicken Ranch; Cowan, Jeffrey; Cox, Stanley Rob - TBMWI; Cranston, Peggy - BLM; Cremeen, Rebecca - CSERC; Day, P - MF; Devine, John; Donaldson, Milford Wayne - OHP; Dowd, Maggie-SNF; Drekmeier, Peter - TRT; Edmondson, Steve - NOAA; Eicher, James - BLM; Fety, Lauren - BLM; Findley, Timothy - Hanson Bridgett; Freeman, Beau - CalPoly; Fuller, Reba - TMTC; Furman, Donn W - SFPUC; Ganteinbein, Julie - Water-Power Law Grp; Giglio, Deborah - USFWS; Goode, Ron - NFMT; Gorman, Elaine - YSC; Gutierrez, Monica - NOAA-NMFS; Hastreiter, James L - FERC; Hatch, Jenny - CT; Hayat, Zahra - MF; Hellam, Anita - HH; Hersh-Burdick, Rachael - USACE; Heyne, Tim - CDFG; Holden, James ; Horn, Jeff - BLM; Horn, Tini; Hughes, Noah; Hughes, Robert - CDFG; Jackman, Jerry ; Jackson, Zac - USFWS; Jennings, William - CSPA; Jensen, Art - BAWSCA; Jensen, Laura - TNC; Johannis, Mary; Johnson, Brian - CalTrout; Kanz, Russ - SWRCB; Keating, Janice; Kempton, Kathryn - NOAA-MNFS; Kinney, Teresa; Koepele, Patrick - TRT; Lein, Joseph; Levin, Ellen - SFPUC; Lewis, Reggie - PRCI; Linkard, David - TRT /RH; Loy, Carin; Lyons, Bill - MR; Manji, Annie; Marko, Paul ; Marshall, Mike - RHH; Martin, Michael - MFFC; Mathiesen, Lloyd - CRRMW; McDaniel, Dan -CDWA; McDevitt, Ray - BAWSCA; McDonnell, Marty - SMRT; McLain, Jeffrey - NOAA-NMFS; Means, Julie - CDFG; Mills, John - TUD; Morningstar Pope, Rhonda - BVR; Motola, Mary - CT; O'Brien, Jennifer - CDFG; Orvis, Tom - SCFB; Ott, Bob; Ott, Chris; Pinhey, Nick - City of Modesto; Porter, Ruth - RHH; Powell, Melissa - CRRMW; Puccini, Stephen - CDFG; Raeder, Jessie - TRT; Ramirez, Tim - SFPUC; Rea, Maria - NOAA-NMFS; Reed, Rhonda - NOAA-NMFS; Richardson, Kevin - USACE; Robbins, Royal; Romano, David O - N-R; Roos-Collins, Richard - Water-Power Law Grp for NHI; Roseman, Jesse; Rothert, Steve - AR; Sandkulla, Nicole - BAWSCA; Schutte, Allison - HB; Sears, William - SFPUC; Shumway, Vern - SNF; Shutes, Chris - CSPA; Slay, Ronn - CNRF/AIC; Smith, Jim - MPM; Steindorf, Dave - AW; Stork, Ron - FOR; Stratton, Susan - CA SHPO; Taylor, Mary Jane - CDFG; TeVelde, George A ; Thompson, Larry - NOAA-MNFS; Verkuil, Colette - TRT/MF; Walters, Eric - MF; Wantuck, Rick - NOAA-NMFS; Welch, Steve - ARTA; Wesselman, Eric - TRT; Wheeler, Dan; Wheeler, Dave; Wheeler, Douglas - RHH; Williamson, Harry (NPS); Wilson, Bryan - MF; Winchell, Frank - FERC; Wood, Dave - FR; Wooster, John -NOAA; Workman, Michelle - USFWS; Yoshiyama, Ron; Zipser, Wayne - SCFB
Subject: RE: Proposed Draft Bathymetry Study Plan Conference Call Thursday June 2 at 10:30 a.m. PACIFIC

Based on the responses received (for which I thank you!), the date/time of the conference call regarding the proposed draft Bathymetry Study Plan will be Thursday, June 2, at 10:30 a.m. (Start) to 11:30 a.m. (End) PACIFIC.

Thursday, June 2 – 10:30 a.m. PACIFIC

Call-In Number 866-994-6437

Conference Code 5424697994

Thank you!

Rose Staples CPS CAP

HDR|DTA

Direct: 207-239-3857

From: Staples, Rose

Sent: Friday, May 27, 2011 6:37 PM

To: 'Alves, Jim - City of Modesto'; 'Asay, Lynette - N-R'; 'Aud, John - SCERD'; 'Barnes, James - BLM'; 'Beuttler, John - CSPA'; 'Bond, Jack - City of Modesto'; 'Boucher, Allison - TRC'; 'Boucher, Dave - Allison - TRC'; 'Bowes, Stephen - NPS'; 'Bowman, Art - CWRMP'; 'Brewer, Doug - TetraTech'; 'Brochini, Anthony - SSMN'; 'Buckley, John - CSERC'; 'Burt, Charles - CalPoly'; 'Carlin, Michael - SFPUC'; 'Catlett, Kelly - FOR'; 'Charles, Cindy - GWWF'; 'Cory, Philip - TNC'; 'Costa, Jan - Chicken Ranch'; 'Cowan, Jeffrey'; 'Cox, Stanley Rob - TBMWI'; 'Cranston, Peggy - BLM'; 'Cremeen, Rebecca - CSERC'; 'Day, P - MF'; 'Devine, John'; 'Donaldson, Milford Wayne - OHP'; 'Dowd, Maggie-SNF'; 'Drekmeier, Peter - TRT'; 'Edmondson, Steve - NOAA'; 'Eicher, James - BLM'; 'Fety, Lauren - BLM'; 'Findley, Timothy - Hanson Bridgett'; 'Freeman, Beau - CalPoly'; 'Fuller, Reba - TMTC'; 'Furman, Donn W - SFPUC'; 'Ganteinbein, Julie - Water-Power Law Grp'; 'Giglio, Deborah - USFWS'; 'Goode, Ron - NFMT'; 'Gorman, Elaine - YSC'; 'Gutierrez, Monica - NOAA-NMFS'; 'Hastreiter, James L - FERC'; 'Hatch, Jenny - CT'; 'Hayat, Zahra - MF'; 'Hellam, Anita - HH'; 'Hersh-Burdick, Rachael - USACE'; 'Heyne, Tim - CDFG'; 'Holden, James'; 'Horn, Jeff - BLM'; 'Horn, Tini'; 'Hughes, Noah'; 'Hughes, Robert - CDFG'; 'Jackman, Jerry'; 'Jackson, Zac - USFWS'; 'Jennings, William - CSPA'; 'Jensen, Art - BAWSCA'; 'Jensen, Laura - TNC'; 'Johannis, Mary'; 'Johnson, Brian - CalTrout'; 'Kanz, Russ - SWRCB'; 'Keating, Janice'; 'Kempston, Kathryn - NOAA-MNFS'; 'Kinney, Teresa'; 'Koepele, Patrick - TRT'; 'Lein, Joseph'; 'Levin, Ellen - SFPUC'; 'Lewis, Reggie - PRCI'; 'Linkard, David - TRT /RH'; 'Loy, Carin'; 'Lyons, Bill - MR'; 'Manji, Annie'; 'Marko, Paul'; 'Marshall, Mike - RHH'; 'Martin, Michael - MFFC'; 'Mathiesen, Lloyd - CRRMW'; 'McDaniel, Dan - CDWA'; 'McDevitt, Ray - BAWSCA'; 'McDonnell, Marty - SMRT'; 'McLain, Jeffrey - NOAA-NMFS'; 'Means, Julie - CDFG'; 'Mills, John - TUD'; 'Morningstar Pope, Rhonda - BVR'; 'Motola, Mary - CT'; 'O'Brien, Jennifer - CDFG'; 'Orvis, Tom - SCFB'; 'Ott, Bob'; 'Ott, Chris'; 'Pinhey, Nick - City of Modesto'; 'Porter, Ruth - RHH'; 'Powell, Melissa - CRRMW'; 'Puccini, Stephen - CDFG'; 'Raeder, Jessie - TRT'; 'Ramirez, Tim - SFPUC'; 'Rea, Maria - NOAA-NMFS'; 'Reed, Rhonda - NOAA-NMFS'; 'Richardson, Kevin - USACE'; 'Robbins, Royal'; 'Romano, David O - N-R'; 'Roos-Collins, Richard - Water-Power Law Grp for NHI'; 'Roseman, Jesse'; 'Rothert, Steve - AR'; 'Sandkulla, Nicole - BAWSCA'; 'Schutte, Allison - HB'; 'Sears, William - SFPUC'; 'Shumway, Vern - SNF'; 'Shutes, Chris - CSPA'; 'Slay, Ronn - CNRF/AIC'; 'Smith, Jim - MPM'; 'Staples, Rose'; 'Steindorf, Dave - AW'; 'Stork, Ron - FOR'; 'Stratton, Susan - CA SHPO'; 'Taylor, Mary Jane - CDFG'; 'TeVelde, George A'; 'Thompson, Larry - NOAA-MNFS'; 'Verkuil, Colette - TRT/MF'; 'Walters, Eric - MF'; 'Wantuck, Rick - NOAA-NMFS'; 'Welch, Steve - ARTA'; 'Wesselman, Eric - TRT'; 'Wheeler, Dan'; 'Wheeler, Dave'; 'Wheeler, Douglas - RHH'; 'Williamson, Harry (NPS)'; 'Wilson, Bryan - MF'; 'Winchell, Frank - FERC'; 'Wood, Dave - FR'; 'Wooster, John - NOAA'; 'Workman, Michelle - USFWS'; 'Yoshiyama, Ron'; 'Zipser, Wayne - SCFB'

Subject: Proposed Draft Bathymetry Study Plan and Call for Availability for Conference Call Next Week

At the May 19 Aquatic and Water Resources Working Group meeting, the Districts were asked to share the attached proposed draft study plan for the Don Pedro bathymetry study. We would like to schedule

a conference call to discuss the draft plan, either on Thursday, June 2, at 1 pm or Friday, June 3, at 9 am. If you would like to participate on the call, please respond with your availability. We will then advise everyone of the final time selected. Thank you.

Rose Staples CPS CAP

Executive Assistant

HDR | DTA

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Email rose.staples@hdrinc.com

From: Loy, Carin
Sent: Friday, June 03, 2011 8:09 PM
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Subject: Don Pedro: Draft Cultural and Recreation Study Plans Available

At the May 18 Cultural and Recreation Resources Working Group meeting, the Districts were asked to share the following draft study plans for the Don Pedro Hydroelectric Project:

- Historic Properties Study Plan

- Traditional Cultural Properties Study Plan
- Recreation Facility Condition and Public Accessibility Study Plan
- Visual Quality Study Plan

They are now posted on the Project web-site, under announcements, <http://www.donpedro-relicensing.com/introduction.aspx>.

All four study plans are provided in Microsoft Office Word. Both “red-line” and “clean” copies of the Historic Properties and Traditional Cultural Properties study plans are provided. As the Recreation Facility Condition and Public Accessibility study plans are new studies, only “clean” copies are provided.

Thank you.

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DRAFT

ATTACHMENT 6-9

**TURLOCK IRRIGATION DISTRICT
AND
MODESTO IRRIGATION DISTRICT****DON PEDRO PROJECT
FERC NO. 2299****Historic Properties Study Plan****February 2011
(Revised June 2011)****1.0 Project Nexus**

Together, Turlock Irrigation District (TID) and Modesto Irrigation District (MID), both public agencies, own the Don Pedro Project (FERC Project No. 2299) located in Tuolumne County, California. Continued operation and maintenance (O&M) of the Don Pedro Project (Project) may affect historic properties that are listed on or eligible for listing on the National Register of Historic Places (NRHP). The effect may be direct (e.g., result of ground disturbing activities), indirect (e.g., public access to recreation areas) or cumulative (e.g., caused by a Project activity in combination with other non-Project activities). Certain Project ~~operations and maintenance (O&M)~~ activities may ~~affect~~ historic properties within the Project Boundary or outside the Project Boundary if a result of Project-related activities.

Several terms used throughout this Study Plan warrant definition.

- **Historic Properties.** This term is defined under 36 CFR § 800.16(l)(1), as prehistoric or historic sites, buildings, structures, objects, districts, or traditional cultural properties (TCP)¹ included in or eligible for inclusion in the National Register of Historic Places (NRHP). Historic properties are identified through a process of evaluation of specific criteria found at 36 CFR § 60.4.
- **Cultural Resources.** For the purpose of this study plan, this term is used to mean any prehistoric or historic district, site, building, structure (to include any industrial/engineering systems), object, or TCP, regardless of its National Register eligibility. As well, if the results of this study warrant it, a landscape approach may be used to determine if there are any cultural landscapes present.

2.0 Agency Resource Management Goals

A new FERC license for the Project may permit activities that "...cause changes in the character or use of historic properties, if any such historic properties exist..." (36 CFR § 800.16(d)). FERC must therefore comply with Section 106 of the National Historic Preservation Act

¹ Traditional Cultural Properties (TCPs) are addressed in a separate study proposal (Native American Traditional Cultural Properties Study).

(NHPA) of 1966, as amended, and its implementing regulations at 36 CFR 800. These regulations require the head of any federal department or independent agency having authority to license any undertaking to take into account the effects of the undertaking on historic properties.

As provided for in 18 CFR § 5.5(e), the Districts will request that FERC designate them as FERC's non-federal representatives for purposes of initiating consultation under Section 106 of the NHPA and implementing regulations found at 36 CFR § 800.2(c)(4).

Additionally, the State Historic Preservation Officer (SHPO), in accordance with section 101(b)(3) of NHPA "...advises and assists Federal agencies in carrying out their Section 106 responsibilities..." by ensuring historic properties are taken into account early in the planning and development processes.

The U.S. Bureau of Land Management (BLM) Mother Lode Field Office has management responsibility within the Project's Area of Potential Effects (APE) on any federal lands administered by BLM. The primary goal of BLM is that FERC comply with Section 106 and that historical properties are appropriately considered and managed. As defined in 36 CFR 800.16(d), the APE is "...the geographic area or areas within which an undertaking may directly or indirectly cause changes in the character or use of historical properties, if any such properties exist." ~~For the Don Pedro Project, the APE has been initially defined as all lands within the Project Boundary.~~

~~The State of California also has an interest within the Project's APE. Section 5.11(d)(2) states that an applicant for a new license must in its proposed study "Address any known resource management goals of the agencies or Indian tribes with jurisdiction over the resource to be studied." If the State of California provides a brief written description of their interest in the resource to be addressed in this study, TID and MID will insert the full description. If not, prior to issuing the PAD, TID and MID will describe to the best of its knowledge and understanding of the relevant management goals of the State of California in the resource addressed in this study.~~

Study results may be used in the development of Project facilities and/or license terms of the new license for the purpose of protecting or treating impacts to historic properties that would result from continued Project O&M, or for the purpose of enhancing historic properties that would be affected by continued Project O&M. These facilities, operations and management activities, which are referred to collectively as protection, mitigation and enhancement (PM&E) measures, could include development of a Historic Properties Management Plan (HPMP)² that would describe and implement PM&E measures for historic properties potentially affected by continued Project O&M. A HPMP is a plan for considering and managing effects on historic properties that may occur from constructing, operating, and maintaining hydropower, transmission, and distribution projects, and establishes a decision-making process for considering those effects. Because it is not possible to determine all of the effects of various activities that may occur over the course of a license, FERC typically requires, as a license condition, that a licensee develop and implement a HPMP that considers and manages effects on historic properties throughout the term of the license. For hydropower ~~relicensing~~licensing actions, FERC typically completes

² While not a part of this study, the information developed by this and other relicensing studies may be used to develop a HPMP in consultation with interested parties, and include a ~~final-draft~~ HPMP with the Draft License Application and a final HPMP including evidence of consultation in the in the Final License Application when filed with FERC.

Section 106 by entering into a Programmatic Agreement (PA) or Memorandum of Agreement (MOA) with the Advisory Council on Historic Preservation (ACHP) and the SHPO that typically requires the licensee to develop and implement a HPMP. However, it should be noted that the Section 106 process is still active throughout the life of the new license, particularly regarding new activities by the license holder that have not undergone Section 106 requirements or newly identified cultural resources that also have not undergone Section 106 consideration. As such, while the HPMP and PA or MOA conclude the process needed for obtaining a new FERC license, the Project must continue to comply with Section 106 requirements, the guidelines for which are developed and provided in the HPMP. Additionally, FERC requires that a licensee develop the HPMP in consultation with various other federal, state, tribal, and non-government parties that have interests in the project.

3.0 Study Goals

The primary study goal is to assist FERC in meeting its compliance requirements under Section 106 of the NHPA, as amended, by determining if licensing of the Project will have an adverse effect on historic properties. The objective of this study is to identify ~~archaeological sites and historic architecture~~ cultural resources within the APE, formulate a plan to evaluate their eligibility to the NRHP, if needed, and identify Project-related effects on those resources. At a later date the results of the study will then be used to develop the HPMP, which will ensure that all cultural resources identified within the APE will be appropriately considered and managed during the life of the new FERC license.

To address effects on historic properties, as required under Section 106, the APE is defined as all lands within the FERC Project Boundary ~~containing Project designated facilities and a 60-m buffer above the high water mark to take into account impromptu camping along the water edge~~ areas where there is no previous evidence of any dispersed recreation or use. It is possible that the studies implemented as part of the relicensing process may identify Project-related activities that have the potential to affect historic properties outside ~~the FERC Project Boundary~~ this APE. It is also possible that during relicensing, Project improvements may be proposed that are outside the ~~current FERC Project Boundary~~ APE. If such areas are identified, the APE will expand in accordance with 36 CFR 800.4(a)(1) in consultation with the SHPO, BLM, Tribes, and other interested parties, as appropriate. Additional cultural resource inventories ~~surveys~~ will be completed as part of this study if the APE is expanded.

The study will also comply ~~Project is also subject to compliance~~ with other relevant federal laws including the National Environmental Protection Policy Act (NEPA), the Archaeological Resources Protection Act (ARPA) of 1974 (16 USC 469), the American Indian Religious Freedom Act (AIRFA) of 1978 (42 USC 1996 and 1996a), the Native American Graves Protection and Repatriation Act (NAGPRA) of 1990 (25 USC 3001), Executive Order 11593 (Protection and Enhancement of the Cultural Environment) of 1971 (16 USC 470), the American Antiquities Act of 1906, and Executive Order 13007 (Indian Sacred Sites) of 1996 (73 Federal Register 65, pp. 18293-24).

4.0 Existing Information and Need for Additional Information

Section 5.8 of the PAD describes existing, relevant, and reasonably available information regarding cultural resources. This information is summarized below.

To gather existing, relevant, and reasonably available information regarding cultural resources in the Project APE and vicinity, the Districts performed a records search in July 2010 at the Central California Information Center (CCIC) of the California Historical Resources Information System at California State University (CSU), Stanislaus in Turlock. In addition to identifying ~~historie properties~~[cultural resources](#), this research also served to obtain background information pertinent to understanding the archaeology, history, and ethnohistory of the Project vicinity and APE. The data gathering area included the ~~Project~~[FERC Project Boundary, which is much larger than the APE-APE](#), plus an additional 0.25-mile buffer beyond, to identify previously recorded cultural resources and previous cultural studies that may require consideration during the Project.

The records search included reviews of cultural resources records and site location maps, historic General Land Office (GLO) plats, NRHP, California Register of Historic Resources, Office of Historic Preservation Historic Property Directory, *California State Historic Landmarks* (1996), *California Inventory of Historic Resources* (1976), historic topographic maps, and the Caltrans Bridge Inventory.

The records search indicates that the Project area is highly sensitive for prehistoric and historic-era properties and that some areas within the Project have been subject to previous cultural surveys (see Section 5.8 in the PAD). However, the research also revealed that: many areas within the APE have not yet been surveyed for cultural ~~resources~~[remains](#) and a portion of previously surveyed areas should be reexamined to meet current professional standards for identifying historic properties. To accomplish this, and to meet the study plan objective, additional archival research and field surveys are necessary. This study plan will be used to guide efforts in acquiring the additional information.

The existing information described below is not adequate to meet the goal of the study. Information necessary to address the study goal includes site-specific cultural resources inventory.

4.1 Summary of Record Searches

4.1.1 Previous Cultural Studies

The above-described records search identified 43 previous cultural resource investigations within 0.25-mile of the ~~FERC Project~~[Boundary-APE](#), of which 18 fall within the ~~FERC Boundary-APE~~[FERC BoundaryProject APE](#). The investigations date from the 1960s to 2009 and were ~~conducted prior to~~[prompted by](#) a variety of different ground disturbing developments, to include water control/treatment facilities, utilities, housing developments, mining activities, road/highway construction, recreation facilities, and grazing leases. Two of the previous investigations are articles from *The Quarterly of the Tuolumne Historical Society*, and one is comprised of documentation of monuments and plaques of the E Clampus Vitus organization.

4.1.2 Previously Recorded Archaeological Sites

The records search identified 146 known archaeological sites previously documented within 0.25 mile of the ~~FERC Project~~[Boundary-APE](#), of which 61 fall within the ~~FERC BoundaryProject APE~~[FERC BoundaryProject APE](#). Of the 146 sites within 0.25 mile of the ~~FERC Boundary-APE~~[FERC BoundaryProject APE](#), one includes both prehistoric and protohistoric components, five sites have both prehistoric and historic-era ~~cultural remains~~[components](#), six sites did not have any information on file at the

Information Center and therefore are unknown as to their site type, 57 sites are prehistoric in age, and 77 sites are historic in age. Of the 61 sites within the [FERC Boundary APE](#), 32 are prehistoric, 21 are historic, six are those sites with no site form, and two are multi-component, with both prehistoric and historic-era [component cultural remains](#). The prehistoric components typically include flaked stone with and without bedrock milling stations, with both short- and long-term occupation sites represented. The historic components are predominantly represented by refuse scatters and/or remains of habitation structures/buildings. According to the Office of Historic Preservation's *Archaeological Determinations of Eligibility* list and the *Directory of Properties in the Historic Property Data File* on file at the CCIC, of the 146 sites recorded in the vicinity of the Project APE, four have been determined eligible for inclusion on the NRHP, all of which are located within the [FERC Boundary APE](#). The remaining 142 resources remain unevaluated for the NRHP.

4.1.3 Potential Historic [Period Cultural Resources Sites](#)

Historic period USGS topographic [quadrangles maps](#) and GLO plats were reviewed during the records search to identify locations of potential historic-era sites and features within the [FERC Project Boundary APE](#) and within 0.25 mile of the [FERC Boundary Project APE](#). This resulted in the identification of well over 50 locations where unrecorded historic period sites or features may be present. These sites and features include potential roads and trails, the town site of Jacksonville, buildings, mines, ditches, the Hetch Hetchy Railroad/Yosemite Short Line Railroad, the Hetch Hetchy Aqueduct, and other features.

Historic period maps often provide a general idea of where sites may be located but are not necessarily accurate. Today's maps and mapping standards are not translatable to the past and plots cannot be taken as exact. Because of the disparity between historic period maps and modern maps, it is not known if physical attributes associated with the potential sites and features still exist, are accessible, or if the remains are within the [FERC Boundary APE](#). Potential site locations will be plotted on field maps prior to fieldwork and the survey crew will carefully scrutinize such areas for physical remains.

5.0 Study Methods

5.1 Study Area

The study area [that will be investigated to accomplish the current study](#) is the APE, [As defined in 36 CFR 800.16\(d\), the APE is "...the geographic area or areas within which an undertaking may directly or indirectly cause changes in the character or use of historical properties, if any such properties exist."](#) The APE for the Don Pedro Project relicensing study efforts is defined as [including all Project designated facilities \(recreation areas, hydroelectric facilities, Project access roads, designated Project recreation access roads\) and areas where there is previous evidence of dispersed recreation or use, which includes all lands, Project facilities, and features within the Project Boundary](#). If, at a later time, the Districts propose Project activities that are outside of the study area that may affect resources addressed by this study proposal, the study area will be expanded, if necessary, to include these areas. [As well, should large resources, such as TCPs, be identified that continue outside of the Project APE, those resources will be recorded in their entirety, if appropriate and accessible \(i.e., linear resources such as roads may not be followed out to their terminus\), and the APE may be expanded to incorporate them if it is determine that Project O&M could effect these areas.](#) As required under Section 106 [36 CFR § 800.4(a)(1)],

maps depicting the APE will be submitted to the SHPO for formal review, comment, and approval. The proposed APE (~~Project Boundary~~) is shown in Appendix C of the PAD.

5.2 General Concepts and Procedures

The following general concepts apply to the study:

- Personal safety is an important consideration of each fieldwork team. If the Districts determine the information cannot be collected in a safe manner, the Districts will notify FERC and ~~appropriate resource~~ participating agencies (including the BLM) via email to discuss alternative approaches to perform the study.
- The Districts will make a good faith effort to obtain permission to access private property where needed well in advance of performance of the study. If access is not granted or river access is not feasible or safe, the Districts will notify FERC and appropriate resource agencies via email to discuss alternative approaches to perform the study.
- Field crews may make minor modifications to the study plan in the field to accommodate actual field conditions. If modifications are required, the field crews will follow the protocols in this study plan. All modifications will be documented and reported in the draft study reports.
- Global Positioning System (GPS) data will be collected in a manner that meets or exceeds the federal government's "National Map Accuracy Standards" for published maps. All GPS data will be in the Universal Transverse Mercator (UTM) Coordinate System, using the North American Datum 1983 and stored in Environmental Science Research Institute (ESRI) Shapefile format. After a Shapefile has undergone a quality assurance/quality control (QA/QC) review and after all metadata have been documented, the Districts will provide the Shapefile to resource and land management agencies upon request.
- Field crews will be trained on and provided with materials (e.g., Quat) for decontaminating their boots, waders, and other equipment between study sites. Major concerns are amphibian chytrid fungus, and invasive invertebrates (e.g., zebra mussel, *Dreissena polymorpha*). This is of primary importance when moving: (1) between tributaries and mainstem reaches; (2) moving between basins; and (3) moving between isolated wetlands or ponds and river or stream environments.

5.3 Study Methods

The study approach will consist of the following six steps:

Step 1 - Obtain SHPO Approval of APE. As required under Section 106 [36 CFR § 800.4(a)(1)], the Districts will submit maps depicting the APE to the SHPO for formal review, comment, and concurrence³. Once approved, the maps including SHPO's concurrence letter will be filed with FERC.

The Districts may request that SHPO concur with a modified APE during the study if the Districts determine that the Project affects historic properties outside the previously SHPO-approved APE.

³ Participating tribes and agencies will be provided the opportunity to review and comment on all determinations prior to submission to the SHPO.

Step 2 - Archival Research. Information has been obtained from the record search that identified previous cultural surveys and recorded archaeological and historic-era properties within or ~~directly~~ adjacent to the APE. Archival research will also be conducted at the repositories listed below to obtain additional information specific to the prehistory and history of the Project area, the hydroelectric system in whole, and its individual features. The results of the archival research will serve as the basis for preparing the prehistoric and historic contexts against which archaeological and historic-era properties may be evaluated. Historical photographs located during the archival research may be cited in the text as figures, unless they are subject to copyright laws. Previous NRHP evaluations of resources, if they exist, will be used as much as possible. The places to be contacted or visited ~~may~~ include:

- Bancroft Library, University of California, Berkeley
- California State Library, California History Room and Government Publications
- Bureau of Land Management, Mother ~~Lode~~ Field Office Data Files
- Turlock Museum and Archives
- Modesto Museum and Archives
- Sacramento History Center and Archives
- Sierra Miwuk Tribal Archives
- Tuolumne County Assessor's and Recorder's Offices
- Tuolumne County Historical Society
- Southern Tuolumne County Historical Society
- Archives of the Hetch Hetchy Water and Power/San Francisco Public Utility Commission
- Oral Histories of Project Personnel and/or Local Residents, Historians, or Enthusiasts
- Turlock and Modesto Irrigation Districts
- Sonora Bypass Project Archaeological Documents Produced by the Far Western Anthropological Group

Step 3 - Field Survey. FERC is required to make a reasonable and good faith effort to identify historic properties that may be affected by the Project. ~~Following As described at~~ 36 CFR § 800.4(b)(1), this ~~will~~ may be accomplished through ~~sample field investigations and/or a comprehensive~~ field surveys that ~~is~~ are implemented in accordance with the Secretary of the Interior's Standards and Guidelines for Identification (NPS 1983) ~~and the BLM standards, per the 8100 manual series.~~ FERC is also required to consider any other applicable professional standards and tribal, state, or local laws or procedures to complete the identification of historic properties.

Archaeological Field Survey. To assist FERC in meeting its compliance obligations, and to develop appropriate management measures for historic properties identified within the APE, a field survey will be performed to verify locations of previously recorded cultural resources and to examine all accessible lands not previously surveyed or which were surveyed to less than adequate standards. Areas within the APE that cannot be accessed in a safe manner ~~(e.g., certain locations containing dense vegetation, or unsafe slopes)~~ will not be included within the survey or recording of archaeological and historic-era properties; these areas will be identified in the resulting survey report ~~in text and maps with~~ and an explanation for survey exclusion ~~will be provided.~~

The field survey will be ~~directly~~ supervised ~~and/or conducted in the field~~ by qualified, professional archaeologists (i.e., individuals who meet the Secretary of the Interior's Standards for professional archaeologists ~~and are listed on a California State BLM permit which require the~~

permit holders to have extensive California archaeological experience). Prior to beginning field work, the field crew will visit a prehistoric archaeological assemblage recovered from a location near the Project vicinity to become familiar with prehistoric materials that might be encountered during the field survey of the Project APE. The purpose of the field survey is to: (1) examine lands which have not been previously surveyed; (2) examine lands previously surveyed but where the field strategy is unknown; and (3) examine lands previously surveyed but for which the field strategy does not meet current professional standards, as defined in the Secretary of the Interior's *Standards and Guidelines for Archaeology and Historic Preservation* (NPS 1983).

If conditions allow, lands will be examined that are typically inundated by the Project reservoir but which may become accessible during the survey season as a result of normal reservoir draw-downs.

Locations of previously recorded cultural resources will be verified and the sites re-recorded only if their existing site records or other documentation do not meet current standards for recording, or if the condition and/or integrity of the property has changed since its previous recording. Newly discovered cultural resources, including isolated finds, will be fully documented following the recordation procedures outlined in *Instructions for Recording Historical Resources* (OHP 1995), which utilizes state of California Department of Parks and Recreation (DPR) forms DPR 523 A-L. Prehistoric isolates will be defined as three or less artifacts (flakes, groundstone, etc.) per 50 square meters. Prehistoric isolated features will not be treated as isolated finds, but will be recorded as a site. Historic isolates will be defined on a case by case basis, depending on the types of historic resources identified within the APE. A sketch map for each site recorded or re-documented will be drawn to-scale and the property photographed. The locations of all archaeological sites and isolates documented during the survey will be plotted by the Districts' cultural resources specialist or cultural consultant onto the appropriate USGS 1:24,000-scale topographic map at the time of discovery. Field personnel will use a GPS receiver to document the location of cultural resources (including isolates) recorded during the survey, which will be plotted onto the appropriate USGS topographic quadrangle using the UTM coordinate system. GPS data related to recordation of historic properties will adhere to DPR specifications for accuracy and site specific procedures. Additionally, the areas examined will be plotted onto the appropriate USGS 7.5-minute topographic quadrangle for comparison with previous survey coverage maps.

Archaeological surveys that occur on BLM lands will require valid permits. The Districts' ~~or, as appropriate, their~~ consultants will possess a valid Cultural Resource Use Permit issued through the BLM California State Office and will obtain a Field Authorization through the BLM Mother Lode Field Office~~all required permits~~ prior to examining BLM lands. The Districts' consultants also will notify BLM when fieldwork is scheduled to begin. All artifacts encountered during the field survey will be left in place; no artifacts will be collected during the field survey.

Historic-Era Inventory of the Built Environment. A field inspection, documentation, and subsequent NRHP evaluation (see below) of any historic-era built environment resources will be undertaken by qualified, professional individuals meeting the Secretary of the Interior Standards for Architectural and Engineering Documentation. Individual components will be recorded or re-recorded to meet current DPR standards. This will include digital color photography and sketch maps of each built resource and each associated feature.

Discovery and Treatment of Human Remains. If an inadvertent discovery of human remains occurs on federal lands, the person making the discovery shall follow the procedures outlined in 43 CFR § 10(4)(b) of the Native American Graves Protection and Repatriation Act (NAGPRA) and the guidance provided by the Advisory Council on Historic Preservation, requiring that they immediately notify the BLM and affected Tribes, as appropriate, by telephone, and provide written confirmation of the discovery. On BLM-administered land, NAGPRA responsibilities cannot be delegated to FERC or the Districts. All work in the immediate area of the discovery will cease and the area will be secured to protect the remains. The Districts' cultural resources specialist will consult with the affected tribes to contact the lineal descendent and ascertain the cultural affiliation, as outlined in NAGPRA under 43 CFR § 10(14), in order to otherwise abide by NAGPRA to determine the disposition of the discovered human remains (43 CFR § 10[6]).

On privately owned lands, the California Penal Code (CPC), California Health and Safety Code (CH&SC), and California Public Resources Code (CPRC), also prohibit damage, defacement, or disinterment of human remains without legal authority, and establish civil and criminal penalties for actions associated with private landholdings. Although the CH&SC and CPRC technically apply only to those portions of the APE not under federal jurisdiction, in practice the law is applied throughout the area. Criminal sanctions provided for in the CPC, CH&SC, and CPRC would be above and beyond the penalties authorized by the Archaeological Resources Protection Act (ARPA). Other state laws and codes may also apply.

Step 4 - National Register of Historic Places Evaluation. During documentation of archaeological sites and features in Step 3, the Districts will also document the condition of each resource to assist in identifying potential and existing Project-related affects and level of integrity to provide recommendations for NRHP eligibility or evaluations. All previously unevaluated sites that can be evaluated at this phase, based on the documented remains, background research, and site conditions, will be formally evaluated for SHPO consultation and concurrence. Any NRHP evaluations completed for sites located on federal agency lands will be submitted to the appropriate agency for review prior to obtaining SHPO concurrence. Archaeological resources requiring further cultural resources management consideration beyond the study field efforts or additional archival research to complete NRHP evaluations, including lands not surveyed during relicensing efforts will be identified and included in the Districts' PM&Es for implementation ~~and management outside the study plan~~, likely under a FERC-approved HPMP, unless more immediate action is deemed necessary to address Project-related effects.

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The Districts will utilize the National Register criteria for all sites to be evaluated, which are defined in 36 CFR 60.4, and which include the following:

National Register Criteria for Evaluation. The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association and

- (a) that are associated with events that have made a significant contribution to the broad pattern of our history;
- (b) that are associated with the lives of persons significant in our past;
- (c) that embody the distinctive characteristics of a type, period, or method of construction or that represent the work of a master, or that possess high artistic values, or that

- represent a significant and distinguishable entity whose components may lack individual distinction;
- (d) that have yielded, or may be likely to yield, information important to prehistory or history.

As well, properties not normally considered for listing in the National Register (i.e., cemeteries, birthplaces or graves of historical figures, properties owned by religious institutions or used for religious purposes, structures that have been moved from their original locations, reconstructed historical buildings, properties primarily commemorative in nature, and properties that have achieved significance within the past fifty years) may qualify if they are integral parts of districts that do meet the criteria for evaluation or can apply the *Criteria Considerations* found at 36 CFR 60.

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Evaluation of Historic Project System Features

Previously evaluated historic Project systems or individual features will not be re-evaluated unless substantial changes in their conditions have been observed and documented during the study, or the evaluation is more than ten years old. If deemed appropriate by a qualified, professional cultural resources specialist, individual historic-era features may be evaluated together as a district.

All previously unevaluated historic-era Project features will be formally evaluated for eligibility to the NRHP. The evaluation will consist of three tasks: (1) development of a historic context for the APE using archival research; (2) examination of each historic feature to document and assess the level of integrity, both individually and as an element of a potential Hydroelectric Historic District; and (3) the historical information and the physical site data obtained during background and field research will be used to evaluate the eligibility of each Project feature individually and as part of a potential historic district for inclusion on the NRHP.

Step 5 - Identify and Assess Potential Project Effects on National Register-Eligible Properties.

As required under 36 CFR § 800.5, the Districts will identify and assess, in consultation with the SHPO, BLM, and potentially affected Indian tribes, any adverse effects on historic properties or potential historic properties resulting from Project O&M. Adverse effects are defined as follows:

An adverse effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. Consideration shall be given to all qualifying characteristics of a historic property, including those that may have been identified subsequent to the original evaluation of the property's eligibility for the National Register. Adverse effects may include reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance or be cumulative (36 CFR § 800.5(a)(1)).

Step 6 - Reporting. The Districts will prepare a report that includes the following sections:

(1) Study Goals and Objectives; (2) Environmental and Cultural Setting; (3) Methods and Analysis; (4) Results; (5) Conclusions; and (6) Description of Variances from the FERC-

approved study plan, if any⁴. Upon completion of the field studies, cultural maps provided with the Districts' report will clearly depict the following on USGS 1:24,000 topographic maps: the study areas examined; inventory coverage, including intensity of coverage; and locations of cultural resources identified within the study areas.

Copies of the final report and detailed locations of identified properties may be withheld from public disclosure in accordance with Section 304 (16 U.S.C. 4702-3) of the NHPA (as amended). Concurrence of report recommendations will be sought from the SHPO. Draft versions of the report will be provided to BLM, tribes, and other parties, as appropriate.

6.0 Study-Specific Consultation⁵

The Districts will engage in the following study-specific consultation:

- The Districts will obtain SHPO's concurrence with the APE, for which the participating tribes and agencies will have been provided the opportunity to review and comment as part of this study plan (Step 1).
- The Districts will notify potentially affected tribes and BLM prior to the start of the field survey to provide the proposed field schedule (Step 3).
- Any NRHP evaluations completed for cultural resources located on lands managed by federal agencies (i.e., Forest Service, BLM, etc.) will be provided to the federal agency, as appropriate, for review prior to submittal to SHPO for concurrence (Step 4).

7.0 Schedule

The Districts anticipate the following schedule for completion of the study:

- Field Work (Steps 1, 2, and 3) January 2012 - October 2012⁶
- Office Work (Steps 4 and 5) October 2012 - December 2012
- Consultation As needed and Quarterly Reports
- Report Preparation (Step 6)..... ~~December~~ March 2013² - ~~April~~ February 2013
- Report Review by Agencies and Tribes (Step 6) May 2013 - June 2013
- Report Submittal to SHPO (Step 6) July 2013 - September 2013⁷
- Drafting HPMP⁷ July 2013 - October 2013

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The results of the study will be reported in Exhibit E of the License Application, which will include a summary of the information and findings of the Study Plan. Figures and other pertinent data supporting the summary in Exhibit E will be appended to the License Application. The cultural records and other sensitive information will be included in a Confidential appendix withheld from public disclosure, in accordance with Section 304 (16 U.S.C. 4702-3) of the NHPA as amended.

⁴ The report will meet all of the reporting requirements of the BLM-issued Cultural Resource Use Permit.

⁵ Copies of all correspondence sent to the SHPO by the Districts will be forwarded to the tribes and agencies.

⁶ Fieldwork will include the time of year when the reservoir level is at its lowest to ensure as much surface area is exposed as possible for the study.

⁷ Though the HPMP is not the outcome of the proposed study, the results of the study will be used to help draft an HPMP for the Project relicensing efforts.

8.0 Consistency of Methodology with Generally Accepted Scientific Practices

The proposed study methods discussed above are generally consistent with the study methods followed in several recent relicensing projects (i.e., French Meadows Transmission Line Project, FERC No. 2479; Merced River Hydroelectric Project, FERC No. 2179; Yuba-Bear Hydroelectric Project, FERC No. 2266). These methods have been accepted by the participating Indian Tribes, agencies, and other interested parties associated with those projects. The methods presented in this study plan also are consistent with the ACHP's guidelines for compliance with the requirements of Section 106 of the NHPA found at 36 CFR 800.

9.0 Level of Effort and Cost

Not yet estimated.

10.0 References Cited

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- Jackson, R., M. Boynton, W. Olsen, and R. Weaver. 1988. California Archaeological Resource Identification and Data Acquisition Program: Sparse Lithic Scatters. Office of Historic Preservation, Sacramento.
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- King, T. 1998. Cultural Resource Laws and Practice: An Introductory Guide. Lanham, MD: AltaMira Press.

- Macdougall, A. 1996. Heritage Resources Investigation of the Drum-Spaulding Project, FERC 2310, Recreation Improvements: Results of Survey on Forest Service Lands. Pacific Gas and Electric Company, Chico, CA. Report prepared for USDA Tahoe National Forest, Nevada City, CA.
- Office of Historic Preservation. 1995. Instructions for Recording Historical Resources. Sacramento, California.
- Parker, P. and T. King. 1998. Guidelines for Evaluating and Documenting Traditional Cultural Properties. National Register Bulletin 38. Washington, D.C.: U.S. Department of the Interior, National Park Service
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- . 2002. How to Apply the National Register Criteria for Evaluation. National Register Bulletin 15. Revised for the Internet, available at: <http://www.cr.nps.gov/nr/publications/bulletins/archeology/>. U.S. Department of the Interior, National Park Service, National Register, History, and Education.

DRAFT**ATTACHMENT 6-9****TURLOCK IRRIGATION DISTRICT
AND
MODESTO IRRIGATION DISTRICT****DON PEDRO PROJECT
FERC NO. 2299****Historic Properties Study Plan****February 2011
(Revised June 2011)****1.0 Project Nexus**

Together, Turlock Irrigation District (TID) and Modesto Irrigation District (MID), both public agencies, own the Don Pedro Project (FERC Project No. 2299) located in Tuolumne County, California. Continued operation and maintenance (O&M) of the Don Pedro Project (Project) may affect historic properties that are listed on or eligible for listing on the National Register of Historic Places (NRHP). The effect may be direct (e.g., result of ground disturbing activities), indirect (e.g., public access to recreation areas) or cumulative (e.g., caused by a Project activity in combination with other non-Project activities). Certain Project O&M activities may affect historic properties within the Project Boundary or outside the Project Boundary if a result of Project-related activities.

Several terms used throughout this Study Plan warrant definition.

- **Historic Properties.** This term is defined under 36 CFR § 800.16(l)(1), as prehistoric or historic sites, buildings, structures, objects, districts, or traditional cultural properties (TCP)¹ included in or eligible for inclusion in the National Register of Historic Places (NRHP). Historic properties are identified through a process of evaluation of specific criteria found at 36 CFR § 60.4.
- **Cultural Resources.** For the purpose of this study plan, this term is used to mean any prehistoric or historic district, site, building, structure (to include any industrial/engineering systems), object, or TCP, regardless of its National Register eligibility. As well, if the results of this study warrant it, a landscape approach may be used to determine if there are any cultural landscapes present.

2.0 Agency Resource Management Goals

A new FERC license for the Project may permit activities that “...cause changes in the character or use of historic properties, if any such historic properties exist...” (36 CFR § 800.16(d)). FERC must therefore comply with Section 106 of the National Historic Preservation Act

¹ Traditional Cultural Properties (TCPs) are addressed in a separate study proposal (Native American Traditional Cultural Properties Study).

(NHPA) of 1966, as amended, and its implementing regulations at 36 CFR 800. These regulations require the head of any federal department or independent agency having authority to license any undertaking to take into account the effects of the undertaking on historic properties.

As provided for in 18 CRF § 5.5(e), the Districts will request that FERC designate them as FERC's non-federal representatives for purposes of initiating consultation under Section 106 of the NHPA and implementing regulations found at 36 CFR § 800.2(c)(4).

Additionally, the State Historic Preservation Officer (SHPO), in accordance with section 101(b)(3) of NHPA "...advises and assists Federal agencies in carrying out their Section 106 responsibilities..." by ensuring historic properties are taken into account early in the planning and development processes.

The U.S. Bureau of Land Management (BLM) Mother Lode Field Office has management responsibility within the Project's Area of Potential Effects (APE) on any federal lands administered by BLM. The primary goal of BLM is that FERC comply with Section 106 and that historical properties are appropriately considered and managed. As defined in 36 CFR 800.16(d), the APE is "...the geographic area or areas within which an undertaking may directly or indirectly cause changes in the character or use of historical properties, if any such properties exist."

Study results may be used in the development of Project facilities and/or license terms of the new license for the purpose of protecting or treating impacts to historic properties that would result from continued Project O&M, or for the purpose of enhancing historic properties that would be affected by continued Project O&M. These facilities, operations and management activities, which are referred to collectively as protection, mitigation and enhancement (PM&E) measures, could include development of a Historic Properties Management Plan (HPMP)² that would describe and implement PM&E measures for historic properties potentially affected by continued Project O&M. A HPMP is a plan for considering and managing effects on historic properties that may occur from constructing, operating, and maintaining hydropower, transmission, and distribution projects, and establishes a decision-making process for considering those effects. Because it is not possible to determine all of the effects of various activities that may occur over the course of a license, FERC typically requires, as a license condition, that a licensee develop and implement a HPMP that considers and manages effects on historic properties throughout the term of the license. For hydropower relicensings, FERC typically completes Section 106 by entering into a Programmatic Agreement (PA) or Memorandum of Agreement (MOA) with the Advisory Council on Historic Preservation (ACHP) and the SHPO that typically requires the licensee to develop and implement a HPMP. However, it should be noted that the Section 106 process is still active throughout the life of the new license, particularly regarding new activities by the license holder that have not undergone Section 106 requirements or newly identified cultural resources that also have not undergone Section 106 consideration. As such, while the HPMP and PA or MOA conclude the process needed for obtaining a new FERC license, the Project must continue to comply with Section 106 requirements, the guidelines for which are developed and provided in the HPMP. Additionally, FERC requires that a licensee develop the

² While not a part of this study, the information developed by this and other relicensing studies may be used to develop a HPMP in consultation with interested parties, and include a draft HPMP with the Draft License Application and a final HPMP in the Final License Application.

HPMP in consultation with various other federal, state, tribal, and non-government parties that have interests in the project.

3.0 Study Goals

The primary study goal is to assist FERC in meeting its compliance requirements under Section 106 of the NHPA, as amended, by determining if licensing of the Project will have an adverse effect on historic properties. The objective of this study is to identify cultural resources within the APE, formulate a plan to evaluate their eligibility to the NRHP, if needed, and identify Project-related effects on those resources. At a later date the results of the study will then be used to develop the HPMP, which will ensure that all cultural resources identified within the APE will be appropriately considered and managed during the life of the new FERC license.

To address effects on historic properties, as required under Section 106, the APE is defined as all lands containing Project designated facilities and areas where there is previous evidence of dispersed recreation or use. It is possible that the studies implemented as part of the relicensing process may identify Project-related activities that have the potential to affect historic properties outside this APE. It is also possible that during relicensing, Project improvements may be proposed that are outside the APE. If such areas are identified, the APE will expand in accordance with 36 CFR 800.4(a)(1) in consultation with the SHPO, BLM, Tribes, and other interested parties, as appropriate. Additional cultural resource inventories will be completed as part of this study if the APE is expanded.

The study will also comply with other relevant federal laws including the National Environmental Policy Act (NEPA), the Archaeological Resources Protection Act (ARPA) of 1974 (16 USC 469), the American Indian Religious Freedom Act (AIRFA) of 1978 (42 USC 1996 and 1996a), the Native American Graves Protection and Repatriation Act (NAGPRA) of 1990 (25 USC 3001), Executive Order 11593 (Protection and Enhancement of the Cultural Environment) of 1971 (16 USC 470), the American Antiquities Act of 1906, and Executive Order 13007 (Indian Sacred Sites) of 1996 (73 Federal Register 65, pp. 18293-24).

4.0 Existing Information and Need for Additional Information

Section 5.8 of the PAD describes existing, relevant, and reasonably available information regarding cultural resources. This information is summarized below.

To gather existing, relevant, and reasonably available information regarding cultural resources in the Project APE and vicinity, the Districts performed a records search in July 2010 at the Central California Information Center (CCIC) of the California Historical Resources Information System at California State University (CSU), Stanislaus in Turlock. In addition to identifying cultural resources, this research also served to obtain background information pertinent to understanding the archaeology, history, and ethnohistory of the Project vicinity and APE. The data gathering area included the FERC Project Boundary, which is much larger than the APE, plus an additional 0.25-mile buffer beyond, to identify previously recorded cultural resources and previous cultural studies that may require consideration during the Project.

The records search included reviews of cultural resources records and site location maps, historic General Land Office (GLO) plats, NRHP, California Register of Historic Resources, Office of Historic Preservation Historic Property Directory, *California State Historic Landmarks* (1996),

California Inventory of Historic Resources (1976), historic topographic maps, and the Caltrans Bridge Inventory.

The records search indicates that the Project area is highly sensitive for prehistoric and historic-era properties and that some areas within the Project have been subject to previous cultural surveys (see Section 5.8 in the PAD). However, the research also revealed that: many areas within the APE have not yet been surveyed for cultural resources and a portion of previously surveyed areas should be reexamined to meet current professional standards for identifying historic properties. To accomplish this, and to meet the study plan objective, additional archival research and field surveys are necessary. This study plan will be used to guide efforts in acquiring the additional information.

The existing information described below is not adequate to meet the goal of the study. Information necessary to address the study goal includes site-specific cultural resources inventory.

4.1 Summary of Record Searches

4.1.1 Previous Cultural Studies

The above-described records search identified 43 previous cultural resource investigations within 0.25-mile of the FERC Project Boundary, of which 18 fall within the FERC Boundary. The investigations date from the 1960s to 2009 and were prompted by a variety of different ground disturbing developments, to include water control/treatment facilities, utilities, housing developments, mining activities, road/highway construction, recreation facilities, and grazing leases. Two of the previous investigations are articles from *The Quarterly of the Tuolumne Historical Society*, and one is comprised of documentation of monuments and plaques of the E Clampus Vitus organization.

4.1.2 Previously Recorded Archaeological Sites

The records search identified 146 known archaeological sites previously documented within 0.25 mile of the FERC Project Boundary, of which 61 fall within the FERC Boundary. Of the 146 sites within 0.25 mile of the FERC Boundary, one includes both prehistoric and protohistoric components, five sites have both prehistoric and historic-era components, six sites did not have any information on file at the Information Center and therefore are unknown as to their site type, 57 sites are prehistoric in age, and 77 sites are historic in age. Of the 61 sites within the FERC Boundary, 32 are prehistoric, 21 are historic, six are those sites with no site form, and two are multi-component, with both prehistoric and historic-era components. The prehistoric components typically include flaked stone with and without bedrock milling stations, with both short- and long-term occupation sites represented. The historic components are predominantly represented by refuse scatters and/or remains of habitation structures/buildings. According to the Office of Historic Preservation's *Archaeological Determinations of Eligibility* list and the *Directory of Properties in the Historic Property Data File* on file at the CCIC, of the 146 sites recorded in the vicinity of the Project APE, four have been determined eligible for inclusion on the NRHP, all of which are located within the FERC Boundary. The remaining 142 resources remain unevaluated for the NRHP.

4.1.3 Potential Historic-Period Cultural Resources

Historic period USGS topographic maps and GLO plats were reviewed during the records search to identify locations of potential historic-era sites and features within the FERC Project Boundary and within 0.25 mile of the FERC Boundary. This resulted in the identification of well over 50 locations where unrecorded historic period sites or features may be present. These sites and features include potential roads and trails, the town site of Jacksonville, buildings, mines, ditches, the Hetch Hetchy Railroad/Yosemite Short Line Railroad, the Hetch Hetchy Aqueduct, and other features.

Historic period maps often provide a general idea of where sites may be located but are not necessarily accurate. Today's maps and mapping standards are not translatable to the past and plots cannot be taken as exact. Because of the disparity between historic period maps and modern maps, it is not known if physical attributes associated with the potential sites and features still exist, are accessible, or if the remains are within the FERC Boundary. Potential site locations will be plotted on field maps prior to fieldwork and the survey crew will carefully scrutinize such areas for physical remains.

5.0 Study Methods

5.1 Study Area

The study area that will be investigated to accomplish the current study is the APE. As defined in 36 CFR 800.16(d), the APE is "...the geographic area or areas within which an undertaking may directly or indirectly cause changes in the character or use of historical properties, if any such properties exist." The APE for the Don Pedro Project relicensing study efforts is defined as including all Project designated facilities (recreation areas, hydroelectric facilities, Project access roads, designated Project recreation access roads) and areas where there is previous evidence of dispersed recreation or use. If, at a later time, the Districts propose Project activities that are outside of the study area that may affect resources addressed by this study proposal, the study area will be expanded, if necessary, to include these areas. As well, should large resources, such as TCPs, be identified that continue outside of the Project APE, those resources will be recorded in their entirety, if appropriate and accessible (i.e., linear resources such as roads may not be followed out to their terminus), and the APE may be expanded to incorporate them if it is determined that Project O&M could effect these areas. As required under Section 106 [36 CFR § 800.4(a)(1)], maps depicting the APE will be submitted to the SHPO for formal review, comment, and approval. The proposed APE is shown in Appendix C of the PAD.

5.2 General Concepts and Procedures

The following general concepts apply to the study:

- Personal safety is an important consideration of each fieldwork team. If the Districts determine the information cannot be collected in a safe manner, the Districts will notify FERC and participating agencies (including the BLM) via email to discuss alternative approaches to perform the study.
- The Districts will make a good faith effort to obtain permission to access private property where needed well in advance of performance of the study. If access is not granted or river

- access is not feasible or safe, the Districts will notify FERC and appropriate resource agencies via email to discuss alternative approaches to perform the study.
- Field crews may make minor modifications to the study plan in the field to accommodate actual field conditions. If modifications are required, the field crews will follow the protocols in this study plan. All modifications will be documented and reported in the draft study reports.
 - Global Positioning System (GPS) data will be collected in a manner that meets or exceeds the federal government's "National Map Accuracy Standards" for published maps. All GPS data will be in the Universal Transverse Mercator (UTM) Coordinate System, using the North American Datum 1983 and stored in Environmental Science Research Institute (ESRI) Shapefile format. After a Shapefile has undergone a quality assurance/quality control (QA/QC) review and after all metadata have been documented, the Districts will provide the Shapefile to resource and land management agencies upon request.
 - Field crews will be trained on and provided with materials (e.g., Quat) for decontaminating their boots, waders, and other equipment between study sites. Major concerns are amphibian chytrid fungus, and invasive invertebrates (e.g., zebra mussel, *Dreissena polymorpha*). This is of primary importance when moving: (1) between tributaries and mainstem reaches; (2) moving between basins; and (3) moving between isolated wetlands or ponds and river or stream environments.

5.3 Study Methods

The study approach will consist of the following six steps:

Step 1 - Obtain SHPO Approval of APE. As required under Section 106 [36 CFR § 800.4(a)(1)], the Districts will submit maps depicting the APE to the SHPO for formal review, comment, and concurrence³. Once approved, the maps including SHPO's concurrence letter will be filed with FERC.

The Districts may request that SHPO concur with a modified APE during the study if the Districts determine that the Project affects historic properties outside the previously SHPO-approved APE.

Step 2 - Archival Research. Information has been obtained from the record search that identified previous cultural surveys and recorded archaeological and historic-era properties within or adjacent to the APE. Archival research will also be conducted at the repositories listed below to obtain additional information specific to the prehistory and history of the Project area, the hydroelectric system in whole, and its individual features. The results of the archival research will serve as the basis for preparing the prehistoric and historic contexts against which archaeological and historic-era properties may be evaluated. Historical photographs located during the archival research may be cited in the text as figures, unless they are subject to copyright laws. Previous NRHP evaluations of resources, if they exist, will be used as much as possible. The places to be contacted or visited may include:

- Bancroft Library, University of California, Berkeley
- California State Library, California History Room and Government Publications

³ Participating tribes and agencies will be provided the opportunity to review and comment on all determinations prior to submission to the SHPO.

- Bureau of Land Management, Mother Lode Field Office Data Files
- Turlock Museum and Archives
- Modesto Museum and Archives
- Sacramento History Center and Archives
- Sierra Miwuk Tribal Archives
- Tuolumne County Assessor's and Recorder's Offices
- Tuolumne County Historical Society
- Southern Tuolumne County Historical Society
- Archives of the Hetch Hetchy Water and Power/San Francisco Public Utility Commission
- Oral Histories of Project Personnel and/or Local Residents, Historians, or Enthusiasts
- Turlock and Modesto Irrigation Districts
- Sonora Bypass Project Archaeological Documents Produced by the Far Western Anthropological Group

Step 3 - Field Survey. FERC is required to make a reasonable and good faith effort to identify historic properties that may be affected by the Project. Following 36 CFR § 800.4(b)(1), this will be accomplished through a comprehensive field survey that is implemented in accordance with the Secretary of the Interior's Standards and Guidelines for Identification (NPS 1983) and the BLM standards, per the 8100 manual series. FERC is also required to consider any other applicable professional standards and tribal, state, or local laws or procedures to complete the identification of historic properties.

Archaeological Field Survey. To assist FERC in meeting its compliance obligations, and to develop appropriate management measures for historic properties identified within the APE, a field survey will be performed to verify locations of previously recorded cultural resources and to examine all accessible lands not previously surveyed or which were surveyed to less than adequate standards. Areas within the APE that cannot be accessed in a safe manner will not be included within the survey or recording of archaeological and historic-era properties; these areas will be identified in the resulting survey report in text and maps with an explanation for survey exclusion.

The field survey will be directly supervised in the field by qualified, professional archaeologists (i.e., individuals who meet the Secretary of the Interior's Standards for professional archaeologists and are listed on a California State BLM permit which require the permit holders to have extensive California archaeological experience). Prior to beginning field work, the field crew will visit a prehistoric archaeological assemblage recovered from a location near the Project vicinity to become familiar with prehistoric materials that might be encountered during the field survey of the Project APE. The purpose of the field survey is to: (1) examine lands which have not been previously surveyed; (2) examine lands previously surveyed but where the field strategy is unknown; and (3) examine lands previously surveyed but for which the field strategy does not meet current professional standards, as defined in the Secretary of the Interior's *Standards and Guidelines for Archaeology and Historic Preservation* (NPS 1983).

If conditions allow, lands will be examined that are typically inundated by the Project reservoir but which may become accessible during the survey season as a result of normal reservoir draw-downs.

Locations of previously recorded cultural resources will be verified and the sites re-recorded only if their existing site records or other documentation do not meet current standards for

recording, or if the condition and/or integrity of the property has changed since its previous recording. Newly discovered cultural resources, including isolated finds, will be fully documented following the recordation procedures outlined in *Instructions for Recording Historical Resources* (OHP 1995), which utilizes state of California Department of Parks and Recreation (DPR) forms DPR 523 A-L. Prehistoric isolates will be defined as three or less artifacts (flakes, groundstone, etc.) per 50 square meters. Prehistoric isolated features will not be treated as isolated finds, but will be recorded as a site. Historic isolates will be defined on a case by case basis, depending on the types of historic resources identified within the APE. A sketch map for each site recorded or re-documented will be drawn to-scale and the property photographed. The locations of all archaeological sites and isolates documented during the survey will be plotted by the Districts' cultural resources specialist or cultural consultant onto the appropriate USGS 1:24,000-scale topographic map at the time of discovery. Field personnel will use a GPS receiver to document the location of cultural resources (including isolates) recorded during the survey, which will be plotted onto the appropriate USGS topographic quadrangle using the UTM coordinate system. GPS data related to recordation of historic properties will adhere to DPR specifications for accuracy and site specific procedures. Additionally, the areas examined will be plotted onto the appropriate USGS 7.5-minute topographic quadrangle for comparison with previous survey coverage maps.

Archaeological surveys that occur on BLM lands will require valid permits. The Districts' consultants will possess a valid Cultural Resource Use Permit issued through the BLM California State Office and will obtain a Field Authorization through the BLM Mother Lode Field Office prior to examining BLM lands. The Districts' consultants also will notify BLM when fieldwork is scheduled to begin. All artifacts encountered during the field survey will be left in place; no artifacts will be collected during the field survey.

Historic-Era Inventory of the Built Environment. A field inspection, documentation, and subsequent NRHP evaluation (see below) of any historic-era built environment resources will be undertaken by qualified, professional individuals meeting the Secretary of the Interior Standards for Architectural and Engineering Documentation. Individual components will be recorded or re-recorded to meet current DPR standards. This will include digital color photography and sketch maps of each built resource and each associated feature.

Discovery and Treatment of Human Remains. If an inadvertent discovery of human remains occurs on federal lands, the person making the discovery shall follow the procedures outlined in 43 CFR § 10(4)(b) of the Native American Graves Protection and Repatriation Act (NAGPRA) and the guidance provided by the Advisory Council on Historic Preservation, requiring that they immediately notify the BLM and affected Tribes, as appropriate, by telephone, and provide written confirmation of the discovery. On BLM-administered land, NAGPRA responsibilities cannot be delegated to FERC or the Districts. All work in the immediate area of the discovery will cease and the area will be secured to protect the remains. The Districts' cultural resources specialist will consult with the affected tribes to contact the lineal descendent and ascertain the cultural affiliation, as outlined in NAGPRA under 43 CFR § 10(14), in order to otherwise abide by NAGPRA to determine the disposition of the discovered human remains (43 CFR § 10[6]).

On privately owned lands, the California Penal Code (CPC), California Health and Safety Code (CH&SC), and California Public Resources Code (CPRC), also prohibit damage, defacement, or disinterment of human remains without legal authority, and establish civil and criminal penalties for actions associated with private landholdings. Although the CH&SC and CPRC technically

apply only to those portions of the APE not under federal jurisdiction, in practice the law is applied throughout the area. Criminal sanctions provided for in the CPC, CH&SC, and CPRC would be above and beyond the penalties authorized by the Archaeological Resources Protection Act (ARPA). Other state laws and codes may also apply.

Step 4 - National Register of Historic Places Evaluation. During documentation of archaeological sites and features in Step 3, the Districts will also document the condition of each resource to assist in identifying potential and existing Project-related affects and level of integrity to provide recommendations for NRHP eligibility or evaluations. All previously unevaluated sites that can be evaluated at this phase, based on the documented remains, background research, and site conditions, will be formally evaluated for SHPO consultation and concurrence. Any NRHP evaluations completed for sites located on federal agency lands will be submitted to the appropriate agency for review prior to obtaining SHPO concurrence. Resources requiring further cultural resources management consideration beyond the study will be identified and included in the Districts' PM&Es for implementation, likely under a FERC-approved HPMP, unless more immediate action is deemed necessary to address Project-related effects.

The Districts will utilize the National Register criteria for all sites to be evaluated, which are defined in 36 CFR 60.4, and which include the following:

National Register Criteria for Evaluation. The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association and

- (a) that are associated with events that have made a significant contribution to the broad pattern of our history;
- (b) that are associated with the lives of persons significant in our past;
- (c) that embody the distinctive characteristics of a type, period, or method of construction or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction;
- (d) that have yielded, or may be likely to yield, information important to prehistory or history.

As well, properties not normally considered for listing in the National Register (i.e., cemeteries, birthplaces or graves of historical figures, properties owned by religious institutions or used for religious purposes, structures that have been moved from their original locations, reconstructed historical buildings, properties primarily commemorative in nature, and properties that have achieved significance within the past fifty years) may qualify if they are integral parts of districts that do meet the criteria for evaluation or can apply the *Criteria Considerations* found at 36 CFR 60.

Evaluation of Historic Project System Features

Previously evaluated historic Project systems or individual features will not be re-evaluated unless substantial changes in their conditions have been observed and documented during the study, or the evaluation is more than ten years old. If deemed appropriate by a qualified,

professional cultural resources specialist, individual historic-era features may be evaluated together as a district.

All previously unevaluated historic-era Project features will be formally evaluated for eligibility to the NRHP. The evaluation will consist of three tasks: (1) development of a historic context for the APE using archival research; (2) examination of each historic feature to document and assess the level of integrity, both individually and as an element of a potential Hydroelectric Historic District; and (3) the historical information and the physical site data obtained during background and field research will be used to evaluate the eligibility of each Project feature individually and as part of a potential historic district for inclusion on the NRHP.

Step 5 - Identify and Assess Potential Project Effects on National Register-Eligible Properties.

As required under 36 CFR § 800.5, the Districts will identify and assess, in consultation with the SHPO, BLM, and potentially affected Indian tribes, any adverse effects on historic properties or potential historic properties resulting from Project O&M. Adverse effects are defined as follows:

An adverse effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. Consideration shall be given to all qualifying characteristics of a historic property, including those that may have been identified subsequent to the original evaluation of the property's eligibility for the National Register. Adverse effects may include reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance or be cumulative (36 CFR § 800.5(a)(1)).

Step 6 - Reporting. The Districts will prepare a report that includes the following sections: (1) Study Goals and Objectives; (2) Environmental and Cultural Setting; (3) Methods and Analysis; (4) Results; (5) Conclusions; and (6) Description of Variances from the FERC-approved study plan, if any⁴. Upon completion of the field studies, cultural maps provided with the Districts' report will clearly depict the following on USGS 1:24,000 topographic maps: the study areas examined; inventory coverage, including intensity of coverage; and locations of cultural resources identified within the study areas.

Copies of the final report and detailed locations of identified properties may be withheld from public disclosure in accordance with Section 304 (16 U.S.C. 4702-3) of the NHPA (as amended). Concurrence of report recommendations will be sought from the SHPO. Draft versions of the report will be provided to BLM, tribes, and other parties, as appropriate.

6.0 Study-Specific Consultation⁵

The Districts will engage in the following study-specific consultation:

⁴ The report will meet all of the reporting requirements of the BLM-issued Cultural Resource Use Permit.

⁵ Copies of all correspondence sent to the SHPO by the Districts will be forwarded to the tribes and agencies.

- The Districts will obtain SHPO's concurrence with the APE, for which the participating tribes and agencies will have been provided the opportunity to review and comment as part of this study plan (Step 1).
- The Districts will notify potentially affected tribes and BLM prior to the start of the field survey to provide the proposed field schedule (Step 3).
- Any NRHP evaluations completed for cultural resources located on lands managed by federal agencies (i.e., BLM) will be provided to the federal agency, as appropriate, for review prior to submittal to SHPO for concurrence (Step 4).

7.0 Schedule

The Districts anticipate the following schedule for completion of the study:

- Field Work (Steps 1, 2, and 3)January 2012 - October 2012⁶
- Office Work (Steps 4 and 5)October 2012 - December 2012
- Consultation As needed and Quarterly Reports
- Report Preparation (Step 6)..... March 2013 - April 2013
- Report Review by Agencies and Tribes (Step 6)May 2013 - June 2013
- Report Submittal to SHPO (Step 6) July 2013 - September 2013
- Drafting HPMP⁷July 2013 - October 2013

The results of the study will be reported in Exhibit E of the License Application, which will include a summary of the information and findings of the Study Plan. Figures and other pertinent data supporting the summary in Exhibit E will be appended to the License Application. The cultural records and other sensitive information will be included in a Confidential appendix withheld from public disclosure, in accordance with Section 304 (16 U.S.C. 4702-3) of the NHPA as amended.

8.0 Consistency of Methodology with Generally Accepted Scientific Practices

The proposed study methods discussed above are generally consistent with the study methods followed in several recent relicensing projects (i.e., French Meadows Transmission Line Project, FERC No. 2479; Merced River Hydroelectric Project, FERC No. 2179; Yuba-Bear Hydroelectric Project, FERC No. 2266). These methods have been accepted by the participating Indian Tribes, agencies, and other interested parties associated with those projects. The methods presented in this study plan also are consistent with the ACHP's guidelines for compliance with the requirements of Section 106 of the NHPA found at 36 CFR 800.

9.0 Level of Effort and Cost

Not yet estimated.

⁶ Fieldwork will include the time of year when the reservoir level is at its lowest to ensure as much surface area is exposed as possible for the study.

⁷ Though the HPMP is not the outcome of the proposed study, the results of the study will be used to help draft an HPMP for the Project relicensing efforts.

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- Jackson, R., T. Jackson, C. Miksicek, K. Roper, and D. Simons. 1994. Framework for Archaeological Research and Management on the National Forests of the North-Central Sierra Nevada. Prepared for the USDA Forest Service, Eldorado National Forest.
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- Office of Historic Preservation. 1995. Instructions for Recording Historical Resources. Sacramento, California.
- Parker, P. and T. King. 1998. Guidelines for Evaluating and Documenting Traditional Cultural Properties. National Register Bulletin 38. Washington, D.C.: U.S. Department of the Interior, National Park Service

- U.S. Department of Interior, National Park Service. 1983. Archaeology and Historic Preservation: Secretary of the Interior's Standards and Guidelines in the Federal Register, September 29, 1983 (48FR44716). Department of the Interior, Washington, D.C.
- . 2002. How to Apply the National Register Criteria for Evaluation. National Register Bulletin 15. Revised for the Internet, available at: <http://www.cr.nps.gov/nr/publications/bulletins/archeology/>. U.S. Department of the Interior, National Park Service, National Register, History, and Education.

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ATTACHMENT 6-10

**TURLOCK IRRIGATION DISTRICT
AND
MODESTO IRRIGATION DISTRICT**

**DON PEDRO PROJECT
FERC NO. 2299**

**Native American
Traditional Cultural Properties and Ethnographic Study Plan**

**February 2011
(Revised June 2011)**

1.0 Project Nexus

Turlock Irrigation District (TID) and Modesto Irrigation District (MID), both public agencies, own the Don Pedro Project (FERC No. 2299) located in Tuolumne County, California. Certain on-going operation and maintenance (O&M) and/or recreation activities at the Don Pedro Project (Project) may affect Traditional Cultural Properties (TCP). The effect may be direct (e.g., result of ground disturbing activities), indirect (e.g., public access to Project areas) or cumulative (e.g., caused by a Project activity in combination with other past, present, and reasonably foreseeable future projects). This study focuses on the potential for Project-related activities to affect TCPs.

TCPs are not automatically considered historic properties¹. As defined under 36 CFR 800.16(l), historic properties are prehistoric or historic sites, buildings, structures, objects, districts, or locations of traditional use or beliefs that are included in, or eligible for inclusion in, the National Register of Historic Places (NRHP). Historic properties are identified through a process of evaluation against specific criteria found at 36 CFR 60.4.

To be considered a historic property, a TCP must have integrity and meet at least one of the National Register criteria. When a place of traditional practices is evaluated as eligible for listing on the NRHP, it is termed a TCP. TCPs are defined as any property that is "...eligible for inclusion in the National Register because of its association with cultural practices or beliefs of a living community that (a) are rooted in that community's history, and (b) are important in maintaining the continuing cultural identity of the community" [NR Bulletin 38 (Parker and King 1998:1)].

TCPs are further defined in National Register Bulletin 38 (Parker and King 1998:1) as:

1. Locations associated with the traditional beliefs of a Native American group about its origins, its cultural history, or the nature of the world.

¹ Historic properties other than TCPs are addressed in a separate study proposal (Historic Properties Study) in the relicensing.

2. A rural community, whose organization, buildings and structures, or patterns of land use reflect the cultural traditions valued by its long-term residents.
3. An urban neighborhood that is the traditional home of a particular cultural group, and that reflects its beliefs and practices.
4. Locations where Native American religious practitioners have historically gone and are known or thought to go to today, to perform ceremonial cultural rules of practice.
5. Locations where a community has traditionally carried out economic, artistic or other cultural practices important in maintaining its historic identity.

The Project nexus with TCPs is the potential effect the Project could have on traditional/tribal spiritual areas and other traditional uses in the Project Boundary or adjacent locations that are affected by Project activities. These include, but are not limited to: uses of geologic formations (i.e., landmarks); retrieval of fish for both ceremonial and spiritual purposes; gathering of plants for food, medicinal purposes and traditional uses (e.g., basket making); use of signal points including sightlines for fire signals; and access by Tribe members to and transit on trails and banks of the Tuolumne River traditionally used by Tribes.

2.0 Agency Resource Management Goals

FERC licenses may permit activities that may "...cause changes in the character or use of historic properties, if any such historic properties exist..." (36 CFR § 800.16[d]). FERC must therefore comply with Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended, and its implementing regulations at 36 CFR Part 800 that require any federal department or independent agency having authority to license any undertaking to take into account the effects of the undertaking on historic properties.

As provided for in 18 CFR § 5.5(e), the Districts under separate cover will request that FERC designate them as FERC's non-federal representative for purposes of initiating consultation under Section 106 of the NHPA and the implementing regulations found at 36 CFR § 800.2(c)(4).

Additionally, the State Historic Preservation Officer (SHPO), in accordance with section 101(b)(3) of NHPA "...advises and assists Federal agencies in carrying out their Section 106 responsibilities..." by ensuring historic properties are taken into account early in the planning and development processes.

The Bureau of Land Management (BLM) also has management responsibility for federal lands within the Project's Area of Potential Effects (APE). As defined in 36 CFR 800.16(d), the APE is "...the geographic area or areas within which an undertaking may directly or indirectly cause changes in the character or use of historical properties, if any such properties exist." ~~For the Don Pedro Project, the APE has been initially defined as all lands within the Project Boundary.~~

~~The State of California also retains an interest within the Project APE. Section 5.11(d)(2) states that an applicant for a new license must in its proposed study "Address any known resource management goals of the agencies or Indian tribes with jurisdiction over the resource to be studied."~~

3.0 Study Goals

The [primary](#) study goal is to assist FERC in meeting its compliance requirements under Section 106 of the NHPA, as amended, by determining if licensing of the Project will have an adverse effect on TCPs. The objective of this particular study is to identify TCPs that may potentially be affected by Project O&M, evaluate their eligibility to the NRHP, and identify Project-related activities that may affect TCPs, including locations of ethnographic use. [At a later date the results of the study will then be used to develop the HPMP, which will ensure that all cultural resources identified within the APE will be appropriately considered and managed during the life of the new FERC license.](#)

[The Project is also subject to compliance with other relevant federal laws including the National Environmental Protection Act \(NEPA\), the Archaeological Resources Protection Act \(ARPA\) of 1974 \(16 USC 469\), the American Indian Religious Freedom Act \(AIRFA\) of 1978 \(42 USC 1996 and 1996a\), the Native American Graves Protection and Repatriation Act \(NAGPRA\) of 1990 \(25 USC 3001\), Executive Order 11593 \(Protection and Enhancement of the Cultural Environment\) of 1971 \(16 USC 470\), the American Antiquities Act of 1906, and Executive Order 13007 \(Indian Sacred Sites\) of 1996 \(73 Federal Register 65, pp. 18293-24\).](#)

The term TCP has been in use only in recent decades, thus many older historic studies, oral traditions, and other background materials identified during this study may not use this term specifically, although in principal the information may address what is now termed TCP. Working with indigenous/aboriginal people and gathering any pertinent studies, information, or reports that are used to identify significant indigenous/aboriginal sites will contribute to the understanding of TCPs, and possibly other locations of tribal importance, taking into account relevant tribal values and knowledge as required in FERC's relicensing guidelines. In addition to the Tribal consultation process described more fully in Section 6.3 of this study proposal, significant, relevant studies conducted by ethnographers, graduate students, cultural journalists, and oral historians that are archived in public and private libraries will be reviewed and the relevant data included in the study results.

4.0 Existing Information and Need for Additional Information

Sections 5.8 and 5.10 of the PAD describe existing, relevant, and reasonably available information regarding cultural resources. This information is summarized below.

A records search was conducted during July of 2010 at the Central California Information Center (CCIC) of the California Historical Resources Information System at California State University (CSU), Stanislaus in Turlock. The records search included reviews of cultural resources records and site location maps, historic General Land Office (GLO) plats, NRHP, California Register of Historic Resources, Office of Historic Preservation Historic Property Directory, *California State Historic landmarks* (1996), California Inventory of Historic Resources (1976), historic topographic maps, and the Caltrans Bridge Inventory.

The records search included all lands within the [Project APE](#) [FERC Project Boundary](#) and a 0.25-mile buffer beyond. The purpose of the record search was to identify any previously recorded TCPs that may be in the [FERC Boundary APE](#) or in the vicinity ~~of the APE~~, and to identify

characteristic resource types previously identified within the [FERC Boundary APE](#) and vicinity to help in the preparation of an ethnographic context for the area and/or any potential TCP documentation. The records search also included a 0.25-mile buffer beyond the [FERC Boundary APE](#) to allow adequate coverage and flexibility for Project planning.

The records search did not identify any TCPs or Indian Trust Assets (ITA) within the [FERC Project Boundary APE](#).

ITAs are legal interests in assets held in trust by the federal government for Indian tribes or individual Indians. Assets can be real property, physical assets or intangible property rights. A characteristic of an ITA is that it cannot be sold, leased or otherwise alienated without the United States government's approval. Examples of ITAs are lands, including reservations and public domain allotment; minerals; water rights; hunting and fishing rights; other natural resources; money or claims. ITAs do not include things in which a tribe or individuals have no legal interest. For example, off-reservation sacred lands or archaeological sites in which a tribe has no interest are not ITA.

Additionally, the Districts contacted the California Native American Heritage Commission (NAHC) at the beginning of September 2010 to obtain a listing of tribal groups who should be contacted regarding the Project. The NAHC ~~has yet to provide a tribal contact list for the Project~~ responded in a letter dated February 3, 2011 with a list of potentially affected tribes. ~~However~~ In addition to the NAHC list of tribes, the Districts have identified a number of other Indian Tribes that may have an interest in the relicensing based on the proximity of these groups' traditional territory to the Project APE. The list compiled by the Districts, including the NAHC list, is provided in Table 4.0-1. Additional groups that might be identified ~~by the NAHC, subsequent to this PAD, at a later date~~ will be added.

Table 4.0-1 Tribal contact list ~~compiled by the Districts.~~

Central Sierra Me-Wuk Cultural & Historic Reba Fuller, Spokesperson PO Box 699 Tuolumne, CA 95379	North Fork Mono Tribe Ron Goode, Chairperson 13396 Tollhouse Road Clovis, CA. 93611
Buena Vista Rancheria Roselynn Lwenya, Ph.D Environmental Resources Director P.O. Box 162283 Sacramento, CA 95816 Chukchansi Tribe, Choinumni/Mono Lorrie Planas 2736 Palo Alto Clovis, CA 93611	Buena Vista Rancheria Rhonda Morningstar Pope Chairperson P.O. Box 162283 Sacramento, CA 95816 North Fork Rancheria Delores Roberts, Chairperson PO Box 929 North Fork, CA 93643
Chukchansi Tribe Picayune Rancheria of the Chukchansi Indians Mary Motola, Cultural Specialist 46575 Road 417 #A Coarsegold, CA 93614 Emmaline Hammond	Picayune Rancheria of the Chukchansi Indians Reggie Lewis, Chairperson 46575 Road 417 #A Coarsegold, CA 93614 North Fork Rancheria Mr. Michel Demers, Tribal Administrator

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Don Pedro Project**Native American
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P.O. Box 852 Oakhurst, CA 93644	P.O. Box 929 North Fork, CA 93643
North Fork Mono Rancheria Sandy Vasquez, Chairperson PO Box 1200 Mariposa, CA 95338 Judy Fink, Tribal Chairperson P.O. Box 929 North Fork, CA 93643	Southern Sierra Miwuk Nation Jay Johnson, Spiritual Leader 5235 Allred Road Mariposa, CA 956338-9357
Southern Sierra Miwuk Nation Anthony Brochini, Cultural Resources Representative Chairperson PO Box 1200 Mariposa, CA 95338	Southern Sierra Miwuk Nation Les James, Spiritual Leader PO Box 1200 Mariposa, CA 95338
Tuolumne Band of Me-Wuk Indians Stanley Rob Cox, Cultural Resources Dept. P.O. Box 699 Tuolumne, CA 95379	Tuolumne Band of Me-Wuk Indians Kevin Day, Chairperson P.O. Box 699 Tuolumne, CA 95379
Tuolumne Band of Me-Wuk Indians Reba Fuller, Spokesperson P.O. Box 699 Tuolumne, CA 95379	Mono Nation (non-profit organization associated with the North Fork Mono Rancheria) James Bethel, President 58288 Road 225 North Fork, CA 93643
Chicken Ranch Rancheria of Me-Wuk Melissa Powell, Cultural Resources Coordinator P.O. Box 1159 Jamestown, CA 95327	Chicken Ranch Rancheria of Me-Wuk Lloyd Mathiesen, Chairperson P.O. Box 1159 Jamestown, CA 95327
California Valley Miwok Tribe Silvia Burley, Chairperson 10601 N. Escondido Pl. Stockton, CA 95212-9231	

Prior to mid-September 2010 public meetings for the Project relicensing, the Districts sent letters to the Tribal contacts inviting them to the meetings for an initial public introduction to the Project relicensing. Included in these letters was a request for relevant information related to the relicensing. The Tribal contacts were also referred to the public relicensing website and given the names and contact information for the Districts.

To date, no concerns or potential TCPs or ITAs have yet been identified by the Tribes within the [FERC Project Boundary APE](#) or 0.25 mile beyond.

5.0 Study Methods

5.1 Study Area

[The study area that will be investigated to accomplish the current study is the APE. As defined in 36 CFR 800.16\(d\), the APE is "...the geographic area or areas within which an undertaking](#)

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may directly or indirectly cause changes in the character or use of historical properties, if any such properties exist.” The APE for the Don Pedro Project relicensing study efforts is defined as including all Project designated facilities (recreation areas, hydroelectric facilities, Project access roads, designated Project recreation access roads) and areas where there is previous evidence of dispersed recreation or use. If, at a later time, the Districts propose Project activities that are outside of the study area that may affect resources addressed by this study proposal, the study area will be expanded, if necessary, to include these areas. As well, should large resources, such as TCPs, be identified that continue outside of the Project APE, those resources will be recorded in their entirety, if appropriate and accessible (i.e., linear resources such as roads may not be followed out to their terminus), and the APE may be expanded to incorporate them if it is determined that Project O&M could effect these areas. As required under Section 106 [36 CFR § 800.4(a)(1)], maps depicting the APE will be submitted to the SHPO for formal review, comment, and approval. The proposed APE is shown in Appendix C of the PAD.
~~The study area is the APE, which includes all lands, Project facilities and features within the Project Boundary and Project affected locations outside the Project Boundary. The APE may be modified if Project O&M activities occur outside the Project Boundary. As required under Section 106 [36 CFR § 800.4(a)(1)], maps depicting the APE will be submitted to the SHPO for formal review, comment, and approval.~~

5.2 General Concepts and Procedures

The following general concepts apply to the study:

- Personal safety is the most important consideration of each fieldwork team. If the Districts determine the information cannot be collected in a safe manner, the Districts will notify FERC and appropriate participating resource agencies (including the BLM) via email to discuss alternative approaches to perform the study.
- The Districts will make a good faith effort to obtain permission to access private property where needed in advance of entering the property. If access is not granted or river access is not feasible or safe, the Districts will notify FERC and appropriate resource agencies via email to discuss alternative approaches to perform the study.
- Field crews may make minor variances to the study plan in the field to accommodate actual field conditions. If modifications are required, field crews will follow the protocols in this study plan. All modifications will be documented and reported in the draft study reports.
- Global Positioning System (GPS) data will be collected in a manner that meets or exceeds the federal government’s “National Map Accuracy Standards” for published maps. All GPS data will be in the Universal Transverse Mercator (UTM) Coordinate System, using the North American Datum 1983 and stored in Environmental Science Research Institute (ESRI) Shapefile format. After a Shapefile has undergone a quality assurance/quality control (QA/QC) review and after all metadata have been documented, the Districts will provide the Shapefile to resource and land management agencies upon request.
- Field crews will be trained on and provided with materials (e.g., Quat) for decontaminating their boots, waders, and other equipment between study sites. Major concerns are amphibian chytrid fungus, and invasive invertebrates (e.g., zebra mussel [*Dreissena polymorpha*]). This is of primary importance when moving: (1) between tributaries and

mainstem reaches; (2) moving between basins; and (3) moving between isolated wetlands or ponds and river or stream environments.

5.3 Study Methods

The study approach will consist of the following seven steps:

Step 1 - Obtain SHPO Concurrence on the APE. As required under Section 106 [36 CFR § 800.4(a)(1)], the Districts will submit maps depicting the APE to the SHPO for formal review, comment, and concurrence². Once approved, the maps including SHPO's concurrence letter will be filed with FERC.

The Districts may request that SHPO concur with a modified APE during the study if the Districts determine that the Project affects historic properties outside the previously SHPO-approved APE.

Step 2 - Archival Research. The Districts performed initial archival research in preparation of the Pre-Application Document. In this step, the Districts will, at a minimum, conduct additional archival research at the following places, as appropriate:

- Bancroft Library, University of California, Berkeley
- California State Library, California History Room and Government Publications
- Bureau of Land Management, Motherload Field Office Data Files
- Turlock Museum and Archives
- Modesto Museum and Archives
- ~~Sacramento History Center and Archives~~
- Sierra Miwuk Tribal Archives
- Tuolumne County Assessor's and Recorder's Offices
- Tuolumne County Historical Society
- Southern Tuolumne County Historical Society
- Archives of the Hetch Hetchy Water and Power/San Francisco Public Utility Commission
- Oral Histories of Project Personnel and/or Local Residents, Historians, or Enthusiasts
- ~~Turlock and Modesto Irrigation Districts~~
- Other appropriate Tribal, private, state, or federal repositories identified during the research

Step 3 - Tribal Consultation and Identification of Resources. Following the ethnographic literature review in Step 1, the next step in identifying potential TCPs will involve extensive Tribal consultation. Consultation and any fieldwork and potential TCP documentation shall be undertaken in accordance with Section 106 of the NHPA, as amended, and shall be consistent with National Register Bulletin No. 38, *Guidelines for Evaluating and Documenting Identification of Traditional Cultural Properties*. Prior to conducting any fieldwork or field visits on BLM lands, the Districts' ethnographer will obtain a Field Authorization through the BLM Mother Lode Field Office.

² Participating tribes and agencies will be provided the opportunity to review and comment on all determinations prior to submission to the SHPO.

In order to facilitate Tribal consultation, the Districts intend to retain a qualified, professional ethnographer who meets the standards for ethnography as defined in Appendix II of National Register Bulletin No. 38. The Districts will coordinate its selection of the ethnographer with the assistance of affected Tribes and other interested cultural/Tribal stakeholders.

The ethnographer, in consultation with designated Tribal representatives (e.g., Tribal Chair), will determine the scope and breadth of interviews. The ethnographer will then contact the appropriate Tribe(s) and interested Tribal and cultural stakeholders to arrange for interviews at a time and location acceptable to those Tribal Interviewees. Tribal interviewees and the ethnographer may need to visit the APE together to accurately define potential TCPs. If necessary, the Districts will arrange for an initial introductory meeting between the Districts, Tribal representatives, and the ethnographer.

Interviews may be conducted on a one-on-one basis with the ethnographer. The oral traditions and information collected during the interviews will be used to help define potential TCPs in the APE and to assist in making sound judgments and management decisions in Project planning. All information gathered will be kept confidential and respectfully documented by the ethnographer.

If participating Indian Tribes do not wish to disclose the locations of any potential TCPs, the Districts will instead work with the Tribes to identify the general issues and concerns that the Tribe(s) may have regarding potential impacts of the Project upon resources known to the Tribe(s) and work with the Tribes and appropriate land management agencies to develop agreeable measures to address these concerns.

Step 4 - Archaeological Site Visit. Tribal interviewees or a physically capable Tribal representative and the ethnographer may want to visit archaeological sites identified during the study or during the Historic Properties Study. The purpose of the visit would be to provide Tribal representatives the opportunity to examine prehistoric archaeological sites encountered during the Historic Properties Study fieldwork, and for the ethnographer to obtain additional information on potential TCPs. After the site visit(s) Tribal representatives may choose to share additional TCP information. BLM will be involved with any site visits on BLM-administered land. BLM will request to meet in advance, those tribal representatives who wish to visit prehistoric sites on BLM-administered land. This is prudent and reasonable as BLM has ongoing management obligations for resources on lands under their management, regardless of whether these resources within the FERC project boundary. BLM keeps information about archaeological sites confidential.

Step 5 - National Register of Historic Places Evaluation. Following completion of Step 4, the Districts' ethnographer will evaluate the eligibility of identified TCPs for listing on the NRHP using data collected from the field studies described above. The NRHP codifies the criteria used to evaluate most cultural resources at 36 CFR 60.4, as follows:

National Register Criteria for Evaluation. The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites,

buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association and

- (a) that are associated with events that have made a significant contribution to the broad pattern of our history;*
- (b) that are associated with the lives of persons significant in our past;*
- (c) that embody the distinctive characteristics of a type, period, or method of construction or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction;*
- (d) that have yielded, or may be likely to yield, information important to prehistory or history.*

However, amendments to the NHPA in 1992 [§101(d)(6)(A)] specify that properties of traditional religious and cultural importance to an Indian Tribe may be determined eligible for inclusion in the NRHP because of their “association with cultural practices or beliefs of a living community that are: (1) rooted in that community’s history; and (2) are important in maintaining the continuing cultural identity of the community.” Therefore, a TCP can only be significant if it meets these two criteria. However, if sacred areas or religious locations are identified that do not meet these criteria, they will still be evaluated following the Section 106 process. Formal evaluations will be submitted to the SHPO for concurrence.

As well, properties not normally considered for listing in the National Register (i.e., cemeteries, birthplaces or graves of historical figures, properties owned by religious institutions or used for religious purposes, structures that have been moved from their original locations, reconstructed historical buildings, properties primarily commemorative in nature, and properties that have achieved significance within the past fifty years) may qualify if they are integral parts of districts that do meet the criteria for evaluation or can apply the *Criteria Considerations* found at 36 CFR 60.

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Step 6 - Identify and Assess Potential Project Effects on National Register-Eligible Properties.

As required under 36 CFR § 800.5, the Districts will identify and assess, in consultation with the SHPO, BLM, and potentially affected Indian Tribes, any adverse effects on TCPs resulting from Project O&M. Adverse Effects are defined as follows:

An adverse effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. Consideration shall be given to all qualifying characteristics of a historic property, including those that may have been identified subsequent to the original evaluation of the property's eligibility for the National Register. Adverse effects may include reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance or be cumulative (36 CFR § 800.5(a)(1)).

Step 7 - Reporting. The Districts will prepare a report that includes the following sections:

- (1) Study Goals and Objectives; (2) Environmental and Cultural Setting; (32) Methods and

Analysis; (4) Results; (5) Conclusions; and (6) Description of Variances from the FERC-approved study plan, if any³. The report will include the evaluation plan with a detailed assessment of Project effects. Copies of this report will be provided to the affected Indian Tribes, BLM, SHPO, CSU, Stanislaus, CCIC, and FERC. Copies of the final report and detailed locations of identified properties will be withheld from public disclosure in accordance with Section 304 (16 U.S.C. 4702-3) of the NHPA (as amended). Concurrence on report recommendations will be sought from SHPO. BLM and other interested parties will review the cultural report, evaluation plan, and other documents, before they are sent to SHPO for concurrence.

6.0 Study-Specific Consultation⁴

The Districts will engage in the following study-specific consultation:

- Consultation with FERC, SHPO, affected Native American representatives, and BLM as described in Section 5.3.

7.0 Schedule

The Districts anticipate the following schedule for completion of the study:

- Planning/Pre-field Arrangements January 2012 - February 2012
- Field Work (Steps 1, 2, and 3) March 2012 - December 2012
- Office Work (Steps 4, 5, and 6) January 2013 - July 2013
- Study Proposal Consultation As needed and Quarterly Reports
- Report Preparation (Step 7) August 2013 - ~~October~~ September 2013
- Report Review by Agencies and Tribes⁵ (Step 7) September 2013 - October 2013
- Report Submittal to SHPO⁶ (Step 7) October 2013 - November 2013
- Drafting HPMP⁷ July 2013 – October 2013

The results of the Study Plan will be reported in Exhibit E of the License Application, which will include a summary of the information and findings of the Study Plan. Figures and other pertinent data supporting the summary in Exhibit E will be appended to the License Application. The cultural records and other sensitive information will be included in a confidential appendix withheld from public disclosure, in accordance with Section 304 (16 U.S.C. 4702-3) of the NHPA as amended.

8.0 Consistency of Methodology with Generally Accepted Scientific Practices

The proposed study methods discussed above are generally consistent with the study methods followed in several recent relicensing projects (i.e., French Meadows Transmission Line Project

³ The report will meet all of the reporting requirements of the BLM-issued Cultural Resource Use Permit.

⁴ Copies of all correspondence sent to the SHPO by the Licensees will be forwarded to the tribes and agencies.

⁵ Non-confidential portions only.

⁶ Non-confidential portions only.

⁷ Though the HPMP is not the outcome of the proposed study, the results of the study will be used to help draft an HPMP for the Project relicensing efforts.

- FERC No. 2479; Merced River Hydroelectric Project - FERC No. 2179; Yuba-Bear Hydroelectric Project - FERC No. 2266). These methods have been accepted by the participating Indian Tribes, agencies, and other interested parties associated with those projects. The methods presented in this study plan also are consistent with the ACHP's guidelines for compliance with the requirements of Section 106 of the NHPA found at 36 CFR 800 and with the related guidance set forth in National Register Bulletin 38.

9.0 Level of Effort and Cost

Not yet estimated.

10.0 References Cited

Federal Energy Regulatory Commission and Advisory Council on Historic Preservation. 2002. Guidelines for the Development of Historic Properties Management Plans for FERC Hydroelectric Projects. Washington, D.C.

Parker, Patricia L., and Thomas F. King. 1998. Guidelines for Evaluating and Documenting Traditional Cultural Properties. Revised. National Register Bulletin 38. U.S. Department of the Interior, National Park Service, National Register, History, and Education Division, Washington, D.C.

DRAFT

ATTACHMENT 6-10

**TURLOCK IRRIGATION DISTRICT
AND
MODESTO IRRIGATION DISTRICT**

**DON PEDRO PROJECT
FERC NO. 2299**

**Native American
Traditional Cultural Properties and Ethnographic Study Plan**

**February 2011
(Revised June 2011)**

1.0 Project Nexus

Turlock Irrigation District (TID) and Modesto Irrigation District (MID), both public agencies, own the Don Pedro Project (FERC No. 2299) located in Tuolumne County, California. Certain on-going operation and maintenance (O&M) and/or recreation activities at the Don Pedro Project (Project) may affect Traditional Cultural Properties (TCP). The effect may be direct (e.g., result of ground disturbing activities), indirect (e.g., public access to Project areas) or cumulative (e.g., caused by a Project activity in combination with other past, present, and reasonably foreseeable future projects). This study focuses on the potential for Project-related activities to affect TCPs.

TCPs are not automatically considered historic properties¹. As defined under 36 CFR 800.16(l), historic properties are prehistoric or historic sites, buildings, structures, objects, districts, or locations of traditional use or beliefs that are included in, or eligible for inclusion in, the National Register of Historic Places (NRHP). Historic properties are identified through a process of evaluation against specific criteria found at 36 CFR 60.4.

To be considered a historic property, a TCP must have integrity and meet at least one of the National Register criteria. When a place of traditional practices is evaluated as eligible for listing on the NRHP, it is termed a TCP. TCPs are defined as any property that is "...eligible for inclusion in the National Register because of its association with cultural practices or beliefs of a living community that (a) are rooted in that community's history, and (b) are important in maintaining the continuing cultural identity of the community" [NR Bulletin 38 (Parker and King 1998:1)].

TCPs are further defined in National Register Bulletin 38 (Parker and King 1998:1) as:

1. Locations associated with the traditional beliefs of a Native American group about its origins, its cultural history, or the nature of the world.

¹ Historic properties other than TCPs are addressed in a separate study proposal (Historic Properties Study) in the relicensing.

2. A rural community, whose organization, buildings and structures, or patterns of land use reflect the cultural traditions valued by its long-term residents.
3. An urban neighborhood that is the traditional home of a particular cultural group, and that reflects its beliefs and practices.
4. Locations where Native American religious practitioners have historically gone and are known or thought to go to today, to perform ceremonial cultural rules of practice.
5. Locations where a community has traditionally carried out economic, artistic or other cultural practices important in maintaining its historic identity.

The Project nexus with TCPs is the potential effect the Project could have on traditional/tribal spiritual areas and other traditional uses in the Project Boundary or adjacent locations that are affected by Project activities. These include, but are not limited to: uses of geologic formations (i.e., landmarks); retrieval of fish for both ceremonial and spiritual purposes; gathering of plants for food, medicinal purposes and traditional uses (e.g., basket making); use of signal points including sightlines for fire signals; and access by Tribe members to and transit on trails and banks of the Tuolumne River traditionally used by Tribes.

2.0 Agency Resource Management Goals

FERC licenses may permit activities that may “...cause changes in the character or use of historic properties, if any such historic properties exist...” (36 CFR § 800.16[d]). FERC must therefore comply with Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended, and its implementing regulations at 36 CFR Part 800 that require any federal department or independent agency having authority to license any undertaking to take into account the effects of the undertaking on historic properties.

As provided for in 18 CFR § 5.5(e), the Districts under separate cover will request that FERC designate them as FERC’s non-federal representative for purposes of initiating consultation under Section 106 of the NHPA and the implementing regulations found at 36 CFR § 800.2(c)(4).

Additionally, the State Historic Preservation Officer (SHPO), in accordance with section 101(b)(3) of NHPA “...advises and assists Federal agencies in carrying out their Section 106 responsibilities...” by ensuring historic properties are taken into account early in the planning and development processes.

The Bureau of Land Management (BLM) also has management responsibility for federal lands within the Project’s Area of Potential Effects (APE). As defined in 36 CFR 800.16(d), the APE is “...the geographic area or areas within which an undertaking may directly or indirectly cause changes in the character or use of historical properties, if any such properties exist.”

3.0 Study Goals

The primary study goal is to assist FERC in meeting its compliance requirements under Section 106 of the NHPA, as amended, by determining if licensing of the Project will have an adverse effect on TCPs. The objective of this particular study is to identify TCPs that may potentially be affected by Project O&M, evaluate their eligibility to the NRHP, and identify Project-related

activities that may affect TCPs, including locations of ethnographic use. At a later date the results of the study will then be used to develop the HPMP, which will ensure that all cultural resources identified within the APE will be appropriately considered and managed during the life of the new FERC license.

The Project is also subject to compliance with other relevant federal laws including the National Environmental Protection Act (NEPA), the Archaeological Resources Protection Act (ARPA) of 1974 (16 USC 469), the American Indian Religious Freedom Act (AIRFA) of 1978 (42 USC 1996 and 1996a), the Native American Graves Protection and Repatriation Act (NAGPRA) of 1990 (25 USC 3001), Executive Order 11593 (Protection and Enhancement of the Cultural Environment) of 1971 (16 USC 470), the American Antiquities Act of 1906, and Executive Order 13007 (Indian Sacred Sites) of 1996 (73 Federal Register 65, pp. 18293-24).

The term TCP has been in use only in recent decades, thus many older historic studies, oral traditions, and other background materials identified during this study may not use this term specifically, although in principal the information may address what is now termed TCP. Working with indigenous/aboriginal people and gathering any pertinent studies, information, or reports that are used to identify significant indigenous/aboriginal sites will contribute to the understanding of TCPs, and possibly other locations of tribal importance, taking into account relevant tribal values and knowledge as required in FERC's relicensing guidelines. In addition to the Tribal consultation process described more fully in Section 6.3 of this study proposal, significant, relevant studies conducted by ethnographers, graduate students, cultural journalists, and oral historians that are archived in public and private libraries will be reviewed and the relevant data included in the study results.

4.0 Existing Information and Need for Additional Information

Sections 5.8 and 5.10 of the PAD describe existing, relevant, and reasonably available information regarding cultural resources. This information is summarized below.

A records search was conducted during July of 2010 at the Central California Information Center (CCIC) of the California Historical Resources Information System at California State University (CSU), Stanislaus in Turlock. The records search included reviews of cultural resources records and site location maps, historic General Land Office (GLO) plats, NRHP, California Register of Historic Resources, Office of Historic Preservation Historic Property Directory, *California State Historic landmarks* (1996), California Inventory of Historic Resources (1976), historic topographic maps, and the Caltrans Bridge Inventory.

The records search included all lands within the FERC Project Boundary and a 0.25-mile buffer beyond. The purpose of the record search was to identify any previously recorded TCPs that may be in the FERC Boundary or in the vicinity, and to identify characteristic resource types previously identified within the FERC Boundary and vicinity to help in the preparation of an ethnographic context for the area and/or any potential TCP documentation. The records search also included a 0.25-mile buffer beyond the FERC Boundary to allow adequate coverage and flexibility for Project planning.

The records search did not identify any TCPs or Indian Trust Assets (ITA) within the FERC Project Boundary.

ITAs are legal interests in assets held in trust by the federal government for Indian tribes or individual Indians. Assets can be real property, physical assets or intangible property rights. A characteristic of an ITA is that it cannot be sold, leased or otherwise alienated without the United States government's approval. Examples of ITAs are lands, including reservations and public domain allotment; minerals; water rights; hunting and fishing rights; other natural resources; money or claims. ITAs do not include things in which a tribe or individuals have no legal interest. For example, off-reservation sacred lands or archaeological sites in which a tribe has no interest are not ITA.

Additionally, the Districts contacted the California Native American Heritage Commission (NAHC) at the beginning of September 2010 to obtain a listing of tribal groups who should be contacted regarding the Project. The NAHC responded in a letter dated February 3, 2011 with a list of potentially affected tribes. In addition to the NAHC list of tribes, the Districts have identified a number of other Indian Tribes that may have an interest in the relicensing based on the proximity of these groups' traditional territory to the Project APE. The list compiled by the Districts, including the NAHC list, is provided in Table 4.0-1. Additional groups that might be identified at a later date will be added.

Table 4.0-1 Tribal contact list.

Central Sierra Me-Wuk Cultural & Historic Reba Fuller, Spokesperson PO Box 699 Tuolumne, CA 95379	North Fork Mono Tribe Ron Goode, Chairperson 13396 Tollhouse Road Clovis, CA. 93611
Buena Vista Rancheria Roselynn Lwenya, Ph.D Environmental Resources Director P.O. Box 162283 Sacramento, CA 95816	Buena Vista Rancheria Rhonda Morningstar Pope Chairperson P.O. Box 162283 Sacramento, CA 95816
Picayune Rancheria of the Chukchansi Indians Mary Motola, Cultural Specialist 46575 Road 417 #A Coarsegold, CA 93614	Picayune Rancheria of the Chukchansi Indians Reggie Lewis, Chairperson 46575 Road 417 #A Coarsegold, CA 93614
Southern Sierra Miwuk Nation Sandy Vasquez, Chairperson PO Box 1200 Mariposa, CA 95338	Southern Sierra Miwuk Nation Jay Johnson, Spiritual Leader 5235 Allred Road Mariposa, CA 956338-9357
Southern Sierra Miwuk Nation Anthony Brochini, Cultural Resources Representative PO Box 1200 Mariposa, CA 95338	Southern Sierra Miwuk Nation Les James, Spiritual Leader PO Box 1200 Mariposa, CA 95338

Tuolumne Band of Me-Wuk Indians Stanley Rob Cox, Cultural Resources Dept. P.O. Box 699 Tuolumne, CA 95379	Tuolumne Band of Me-Wuk Indians Kevin Day, Chairperson P.O. Box 699 Tuolumne, CA 95379
Tuolumne Band of Me-Wuk Indians Reba Fuller, Spokesperson P.O. Box 699 Tuolumne, CA 95379	Mono Nation (non-profit organization associated with the North Fork Mono Rancheria) James Bethel, President 58288 Road 225 North Fork, CA 93643
Chicken Ranch Rancheria of Me-Wuk Melissa Powell, Cultural Resources Coordinator P.O. Box 1159 Jamestown, CA 95327	Chicken Ranch Rancheria of Me-Wuk Lloyd Mathiesen, Chairperson P.O. Box 1159 Jamestown, CA 95327
California Valley Miwok Tribe Silvia Burley, Chairperson 10601 N. Escondido Pl. Stockton, CA 95212-9231	

Prior to mid-September 2010 public meetings for the Project relicensing, the Districts sent letters to the Tribal contacts inviting them to the meetings for an initial public introduction to the Project relicensing. Included in these letters was a request for relevant information related to the relicensing. The Tribal contacts were also referred to the public relicensing website and given the names and contact information for the Districts.

To date, no concerns or potential TCPs or ITAs have yet been identified by the Tribes within the FERC Project Boundary or 0.25 mile beyond.

5.0 Study Methods

5.1 Study Area

The study area that will be investigated to accomplish the current study is the APE. As defined in 36 CFR 800.16(d), the APE is “...the geographic area or areas within which an undertaking may directly or indirectly cause changes in the character or use of historical properties, if any such properties exist.” The APE for the Don Pedro Project relicensing study efforts is defined as including all Project designated facilities (recreation areas, hydroelectric facilities, Project access roads, designated Project recreation access roads) and areas where there is previous evidence of dispersed recreation or use. If, at a later time, the Districts propose Project activities that are outside of the study area that may affect resources addressed by this study proposal, the study area will be expanded, if necessary, to include these areas. As well, should large resources, such as TCPs, be identified that continue outside of the Project APE, those resources will be recorded in their entirety, if appropriate and accessible (i.e., linear resources such as roads may not be followed out to their terminus), and the APE may be expanded to incorporate them if it is determined that Project O&M could effect these areas. As required under Section 106 [36 CFR § 800.4(a)(1)], maps depicting the APE will be submitted to the SHPO for formal review, comment, and approval. The proposed APE is shown in Appendix C of the PAD.

5.2 General Concepts and Procedures

The following general concepts apply to the study:

- Personal safety is the most important consideration of each fieldwork team. If the Districts determine the information cannot be collected in a safe manner, the Districts will notify FERC and participating resource agencies (including the BLM) via email to discuss alternative approaches to perform the study.
- The Districts will make a good faith effort to obtain permission to access private property where needed in advance of entering the property. If access is not granted or river access is not feasible or safe, the Districts will notify FERC and appropriate resource agencies via email to discuss alternative approaches to perform the study.
- Field crews may make minor variances to the study plan in the field to accommodate actual field conditions. If modifications are required, field crews will follow the protocols in this study plan. All modifications will be documented and reported in the draft study reports.
- Global Positioning System (GPS) data will be collected in a manner that meets or exceeds the federal government's "National Map Accuracy Standards" for published maps. All GPS data will be in the Universal Transverse Mercator (UTM) Coordinate System, using the North American Datum 1983 and stored in Environmental Science Research Institute (ESRI) Shapefile format. After a Shapefile has undergone a quality assurance/quality control (QA/QC) review and after all metadata have been documented, the Districts will provide the Shapefile to resource and land management agencies upon request.
- Field crews will be trained on and provided with materials (e.g., Quat) for decontaminating their boots, waders, and other equipment between study sites. Major concerns are amphibian chytrid fungus, and invasive invertebrates (e.g., zebra mussel [*Dreissena polymorpha*]). This is of primary importance when moving: (1) between tributaries and mainstem reaches; (2) moving between basins; and (3) moving between isolated wetlands or ponds and river or stream environments.

5.3 Study Methods

The study approach will consist of the following seven steps:

Step 1 - Obtain SHPO Concurrence on the APE. As required under Section 106 [36 CFR § 800.4(a)(1)], the Districts will submit maps depicting the APE to the SHPO for formal review, comment, and concurrence². Once approved, the maps including SHPO's concurrence letter will be filed with FERC.

The Districts may request that SHPO concur with a modified APE during the study if the Districts determine that the Project affects historic properties outside the previously SHPO-approved APE.

² Participating tribes and agencies will be provided the opportunity to review and comment on all determinations prior to submission to the SHPO.

Step 2 - Archival Research. The Districts performed initial archival research in preparation of the Pre-Application Document. In this step, the Districts will, at a minimum, conduct additional archival research at the following places, as appropriate:

- Bancroft Library, University of California, Berkeley
- California State Library, California History Room and Government Publications
- Bureau of Land Management, Motherload Field Office Data Files
- Turlock Museum and Archives
- Modesto Museum and Archives
- Sierra Miwuk Tribal Archives
- Tuolumne County Assessor's and Recorder's Offices
- Tuolumne County Historical Society
- Southern Tuolumne County Historical Society
- Archives of the Hetch Hetchy Water and Power/San Francisco Public Utility Commission
- Oral Histories of Project Personnel and/or Local Residents, Historians, or Enthusiasts
- Turlock and Modesto Irrigation Districts Other appropriate Tribal, private, state, or federal repositories identified during the research

Step 3 - Tribal Consultation and Identification of Resources. Following the ethnographic literature review in Step 1, the next step in identifying potential TCPs will involve extensive Tribal consultation. Consultation and any fieldwork and potential TCP documentation shall be undertaken in accordance with Section 106 of the NHPA, as amended, and shall be consistent with National Register Bulletin No. 38, *Guidelines for Evaluating and Documenting Identification of Traditional Cultural Properties*. Prior to conducting any fieldwork or field visits on BLM lands, the Districts' ethnographer will obtain a Field Authorization through the BLM Mother Lode Field Office.

In order to facilitate Tribal consultation, the Districts intend to retain a qualified, professional ethnographer who meets the standards for ethnography as defined in Appendix II of National Register Bulletin No. 38. The Districts will coordinate its selection of the ethnographer with the assistance of affected Tribes and other interested cultural/Tribal stakeholders.

The ethnographer, in consultation with designated Tribal representatives (e.g., Tribal Chair), will determine the scope and breadth of interviews. The ethnographer will then contact the appropriate Tribe(s) and interested Tribal and cultural stakeholders to arrange for interviews at a time and location acceptable to those Tribal Interviewees. Tribal interviewees and the ethnographer may need to visit the APE together to accurately define potential TCPs. If necessary, the Districts will arrange for an initial introductory meeting between the Districts, Tribal representatives, and the ethnographer.

Interviews may be conducted on a one-on-one basis with the ethnographer. The oral traditions and information collected during the interviews will be used to help define potential TCPs in the APE and to assist in making sound judgments and management decisions in Project planning. All information gathered will be kept confidential and respectfully documented by the ethnographer.

If participating Indian Tribes do not wish to disclose the locations of any potential TCPs, the Districts will instead work with the Tribes to identify the general issues and concerns that the Tribe(s) may have regarding potential impacts of the Project upon resources known to the Tribe(s) and work with the Tribes and appropriate land management agencies to develop agreeable measures to address these concerns.

Step 4 - Archaeological Site Visit. Tribal interviewees or a physically capable Tribal representative and the ethnographer may want to visit archaeological sites identified during the study or during the Historic Properties Study. The purpose of the visit would be to provide Tribal representatives the opportunity to examine prehistoric archaeological sites encountered during the Historic Properties Study fieldwork, and for the ethnographer to obtain additional information on potential TCPs. After the site visit(s) Tribal representatives may choose to share additional TCP information. BLM will be involved with any site visits on BLM-administered land. BLM will request to meet in advance, those tribal representatives who wish to visit prehistoric sites on BLM-administered land. This is prudent and reasonable as BLM has ongoing management obligations for resources on lands under their management, regardless of whether these resources within the FERC project boundary. BLM keeps information about archaeological sites confidential.

Step 5 - National Register of Historic Places Evaluation. Following completion of Step 4, the Districts' ethnographer will evaluate the eligibility of identified TCPs for listing on the NRHP using data collected from the field studies described above. The NRHP codifies the criteria used to evaluate most cultural resources at 36 CFR 60.4, as follows:

National Register Criteria for Evaluation. The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association and

- (a) that are associated with events that have made a significant contribution to the broad pattern of our history;*
- (b) that are associated with the lives of persons significant in our past;*
- (c) that embody the distinctive characteristics of a type, period, or method of construction or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction;*
- (d) that have yielded, or may be likely to yield, information important to prehistory or history.*

However, amendments to the NHPA in 1992 [§101(d)(6)(A)] specify that properties of traditional religious and cultural importance to an Indian Tribe may be determined eligible for inclusion in the NRHP because of their "association with cultural practices or beliefs of a living community that are: (1) rooted in that community's history; and (2) are important in maintaining the continuing cultural identity of the community." Therefore, a TCP can only be significant if it meets these two criteria. However, if sacred areas or religious locations are identified that do not meet these criteria, they will still be evaluated following the Section 106 process. Formal evaluations will be submitted to the SHPO for concurrence.

As well, properties not normally considered for listing in the National Register (i.e., cemeteries, birthplaces or graves of historical figures, properties owned by religious institutions or used for religious purposes, structures that have been moved from their original locations, reconstructed historical buildings, properties primarily commemorative in nature, and properties that have achieved significance within the past fifty years) may qualify if they are integral parts of districts that do meet the criteria for evaluation or can apply the *Criteria Considerations* found at 36 CFR 60.

Step 6 - Identify and Assess Potential Project Effects on National Register-Eligible Properties.

As required under 36 CFR § 800.5, the Districts will identify and assess, in consultation with the SHPO, BLM, and potentially affected Indian Tribes, any adverse effects on TCPs resulting from Project O&M. Adverse Effects are defined as follows:

An adverse effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. Consideration shall be given to all qualifying characteristics of a historic property, including those that may have been identified subsequent to the original evaluation of the property's eligibility for the National Register. Adverse effects may include reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance or be cumulative (36 CFR § 800.5(a)(1)).

Step 7 - Reporting. The Districts will prepare a report that includes the following sections: (1) Study Goals and Objectives; (2) Environmental and Cultural Setting; (3) Methods and Analysis; (4) Results; (5) Conclusions; and (6) Description of Variances from the FERC-approved study plan, if any³. The report will include the evaluation plan with a detailed assessment of Project effects. Copies of this report will be provided to the affected Indian Tribes, BLM, SHPO, CSU, Stanislaus, CCIC, and FERC. Copies of the final report and detailed locations of identified properties will be withheld from public disclosure in accordance with Section 304 (16 U.S.C. 4702-3) of the NHPA (as amended). Concurrence on report recommendations will be sought from SHPO. BLM and other interested parties will review the cultural report, evaluation plan, and other documents, before they are sent to SHPO for concurrence.

6.0 Study-Specific Consultation⁴

The Districts will engage in the following study-specific consultation:

- Consultation with FERC, SHPO, affected Native American representatives, and BLM as described in Section 5.3.

³ The report will meet all of the reporting requirements of the BLM-issued Cultural Resource Use Permit.

⁴ Copies of all correspondence sent to the SHPO by the Licensees will be forwarded to the tribes and agencies.

7.0 Schedule

The Districts anticipate the following schedule for completion of the study:

- Planning/Pre-field Arrangements January 2012 - February 2012
- Field Work (Steps 1, 2, and 3) March 2012 - December 2012
- Office Work (Steps 4, 5, and 6) January 2013 - July 2013
- Study Proposal Consultation As needed and Quarterly Reports
- Report Preparation (Step 7) August 2013 - September 2013
- Report Review by Agencies and Tribes⁵ (Step 7) September 2013 - October 2013
- Report Submittal to SHPO⁶ (Step 7) October 2013 - November 2013
- Drafting HPMP⁷ July 2013 - October 2013

The results of the Study Plan will be reported in Exhibit E of the License Application, which will include a summary of the information and findings of the Study Plan. Figures and other pertinent data supporting the summary in Exhibit E will be appended to the License Application. The cultural records and other sensitive information will be included in a confidential appendix withheld from public disclosure, in accordance with Section 304 (16 U.S.C. 4702-3) of the NHPA as amended.

8.0 Consistency of Methodology with Generally Accepted Scientific Practices

The proposed study methods discussed above are generally consistent with the study methods followed in several recent relicensing projects (i.e., French Meadows Transmission Line Project - FERC No. 2479; Merced River Hydroelectric Project - FERC No. 2179; Yuba-Bear Hydroelectric Project - FERC No. 2266). These methods have been accepted by the participating Indian Tribes, agencies, and other interested parties associated with those projects. The methods presented in this study plan also are consistent with the ACHP's guidelines for compliance with the requirements of Section 106 of the NHPA found at 36 CFR 800 and with the related guidance set forth in National Register Bulletin 38.

9.0 Level of Effort and Cost

Not yet estimated.

10.0 References Cited

Federal Energy Regulatory Commission and Advisory Council on Historic Preservation. 2002. Guidelines for the Development of Historic Properties Management Plans for FERC Hydroelectric Projects. Washington, D.C.

Parker, Patricia L., and Thomas F. King. 1998. Guidelines for Evaluating and Documenting Traditional Cultural Properties. Revised. National Register Bulletin 38. U.S. Department

⁵ Non-confidential portions only.

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⁷ Though the HPMP is not the outcome of the proposed study, the results of the study will be used to help draft an HPMP for the Project relicensing efforts.

of the Interior, National Park Service, National Register, History, and Education
Division, Washington, D.C.

DRAFT**TURLOCK IRRIGATION DISTRICT
AND
MODESTO IRRIGATION DISTRICT****DON PEDRO PROJECT
FERC NO. 2299****Recreation Facility Condition and Public Accessibility Assessment Study Plan****June 2011****1.0 Project Nexus**

The Federal Energy Regulatory Commission (FERC) regulations require that the license application include a statement of the existing recreation measures or facilities to be continued or maintained and the new measures or facilities proposed by the applicant for the purpose of creating, preserving, or enhancing recreational opportunities at the project and in its vicinity, and for the purpose of ensuring the safety of the public in its use of project lands and waters. In addition, recreation is a recognized project purpose at FERC-licensed projects under Section 10(a) of the Federal Power Act.

2.0 Resource Management Goals of Agencies with Responsibility for the Resource to be Studied

Turlock Irrigation District and Modesto Irrigation District (TID and MID or Districts) believe the U.S. Department of Interior Bureau of Land Management (BLM) has interests in public access and use of lands managed by BLM on and near Don Pedro Reservoir. BLM management goals are discussed below.

The BLM Sierra Resource Management Plan (SRMP) was implemented in February 2008 and is nearly identical to the Sierra Proposed SRMP and Final Environmental Impact Statement (EIS) published June 8, 2007. Detailed management resolutions (i.e., management activities, mitigations, and project design features) for public lands are outlined in the SRMP, and some goals are specific to recreation. Two recreation goals outlined in the SRMP are: (1) ensure the continued availability of outdoor recreational opportunities while protecting other resources and uses; and (2) ensure adequate river flows for boating, fishing, swimming, etc. Additionally, five recreation objectives are also detailed: (1) develop recreation management strategies for large blocks of BLM land in wild and scenic river corridors; (2) develop recreation sites that meet public health and safety standards; (3) mitigate conflicts between competing uses; (4) maintain existing visitor center, campground, trail, and day-use facilities to accepted BLM standards; (5) manage recreation for a remote experience on the wild segments of the North Fork American, Tuolumne, and Merced rivers pursuant to the Wild and Scenic Rivers Act (BLM 2008, pp. 26-27).

3.0 Study Goals and Objectives

The goal of the recreation facility condition and public accessibility assessment (the study) is to provide information about any need for maintenance or enhancement of existing recreation facilities to support current and future demand for public recreation in the Project area. The objectives of the study are to:

- Assess the condition of existing developed recreation facilities at the Don Pedro Project;
- Estimate present capacity of recreation facilities at the Project to support present and future demand for public recreation at the Project (i.e., facility carrying capacity); and
- Provide information useful for determining present and future public recreation facility needs for the Project.

4.0 Existing Information and Need for Additional Information

All recreation activities at the Project are managed by the Don Pedro Recreation Agency (DPRA). Operationally, the DPRA is a department within TID. It is an agency sponsored by the Districts and City and County of San Francisco (CCSF). DPRA is managed by a Board of Control. Funding for routine operation and maintenance (O&M) is provided by the recreation fees it charges. Capital funding is provided by the Districts and CCSF.

The Project recreation predominantly occurs at the three developed recreation sites on the reservoir:

- Fleming Meadows Recreation Area;
- Blue Oaks Recreation Area; and
- Moccasin Point Recreation Area.

Developed toilet facilities are operated and maintained at 11 remote locations where recreation use is known to be concentrated. Developed facilities at these 14 locations will be included in this assessment (Figure 1).

DPRA operates and maintains all these developed recreation facilities and routinely assesses the need for and executes maintenance, repair, and replacement. This study will supplement information on existing Project recreation facility condition and accessibility already available from DPRA.

5.0 Study Methods

This study will assess the condition of existing developed recreation facilities within the Don Pedro Project operated by DPRA (Figure 1).

5.1 Study Area

This study will take place at Don Pedro Reservoir in Tuolumne County, California. The study area consists of developed recreation sites and facilities on Don Pedro Reservoir (Figure 1).

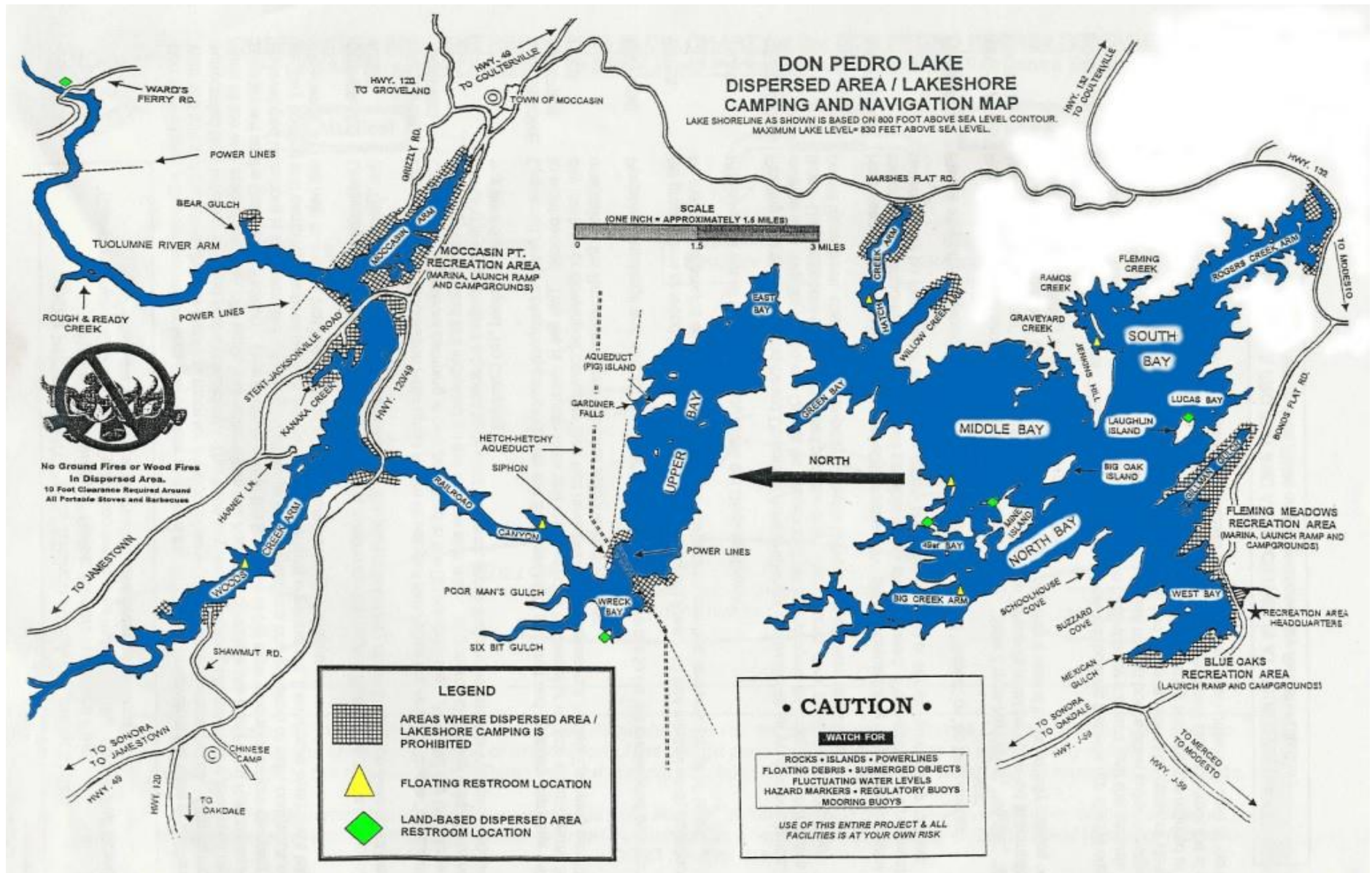


Figure 1 Developed facilities to be inventoried and evaluated for the Don Pedro Project recreation facility condition and public use assessment.

5.2 General Concepts and Procedures

The following general concepts apply to the study:

- Personal safety is an important consideration of each fieldwork team. The Districts and their consultants will perform the study in a safe manner.
- The Districts will make a good faith effort to obtain permission to access private property where needed in advance of performance of the study. Field crews may make minor modifications in the field to adjust to and to accommodate actual field conditions and unforeseeable events. Any modifications made will be documented and reported in the draft study reports.

5.3 Study Methods

A recreation facility condition and public accessibility assessment will combine three tasks: 1) facility inventory, 2) facility condition assessment, and 3) accessibility compliance evaluation. Each task is described below.

Facility Inventory

The number and type of recreation facilities at the recreation sites operated by DPRA will be inventoried. Photographs will be taken as appropriate as either a representative photograph of similar facilities or of each one-of-a-kind facility. Facilities of interest include camp sites, picnic sites, restrooms, parking spaces, boat launches, boat docks, marinas, and recreation signs and kiosks.

Facility Condition Assessment

A qualitative assessment of the condition of developed recreation facilities owned and operated by DPRA will be conducted. The assessment categories are poor, fair, and good condition. This assessment will include information on whether the facilities are in working order. Table 1 provides evaluation criteria that will be used for each recreation facility type.

Table 1 Site condition evaluation criteria and rating system.

Variable	0	1	2
	Poor	Fair	Good
Roads and Parking (circulation and condition of surface paving)	All surfaces are in disrepair and need of immediate reconditioning or replacement. Current conditions create safety hazards.	Need for improved maintenance and repair in some areas. No major safety concerns.	All surfaces in generally good condition and well maintained. No rehabilitation required within the next 5-10 years.
Recreation Site Amenities (condition of vehicle spurs, picnic tables, fire ring/grills, boat ramps, etc.)	Facilities require immediate repair or replacement. Little evidence of recent maintenance.	Some facilities damaged or in need of replacement. Could be accommodated through routine maintenance.	Facilities generally in good condition and well maintained.

Variable	0	1	2
	Poor	Fair	Good
Recreation Site Buildings (condition of restrooms, maintenance buildings, on-site wastewater disposal, and other structures)	Structures in disrepair requiring immediate attention. Potential for significant rehabilitation. Problems could include rot, leaks, and sagging roofs.	Some structures need minor repairs, such as painting or replacement of roof/shingles. Repairs should be made, but are not needed immediately.	All structures appear in sound, well maintained condition. No significant problems observed.
Signs (presence/condition of project and recreation signs)	Signs do not exist or require immediate repair or replacement.	Some signs damaged or in need of replacement.	Signs generally in good condition and well maintained.
ADA Compliance (presence of accessible facilities)	Little or no consideration for handicap accessibility. Clearly not consistent with ADA guidelines.	Some handicap facilities, but in disrepair or not up to current standards (e.g., slopes too steep, docks inaccessible, etc.)	High quality of accessibility. Facilities appear fully consistent with current ADA guidelines.

Based on the rating of each site component in Table 1, an overall facility evaluation score will be assigned at each site using the following scale:

- Score = 7 to 10: Good condition requiring routine care/maintenance;
- Score = 4 to 6: Fair condition; conditions could be improved by rehabilitation; and
- Score = 0 to 3: Poor condition; rehabilitation work urgently needed.

Accessibility Assessment

Developed recreation facilities operated by DPRA will be assessed for their compliance with current American with Disabilities Act (ADA) standards for accessible design (28 CFR Part 36 1994; U.S. Architectural and Transportation Barriers Compliance Board 2002). Recreation facilities will be assessed for their ability to provide opportunities for persons with disabilities to participate in the Project's primary recreation opportunities (including boating and shore fishing). Privately owned commercial facilities will not be assessed.

6.0 Schedule

The facility condition assessment is planned for spring 2012.

7.0 Consistency of Methodology with Generally Accepted Scientific Practices

The methods presented in this study plan are consistent with those used in recent relicensings in California including most recently for the Merced Irrigation District's Lake McClure and McSwain Reservoir. Additional surveys with similar methodology include the Yuba-Bear/Drum-Spaulding Project's Lake Spaulding, Rollins Reservoir, Bowman Lake, Jackson Meadows Reservoir, Fordyce Lake and Lake Valley Reservoir.

8.0 Deliverables

The Districts will prepare a report on recreation facility condition and public accessibility for inclusion in the Initial Study Report (ISR) to be filed on or before December 21, 2012.

9.0 References

Bureau of Land Management. 2008. Sierra Resource Management Plan and Record of Decision. U.S. Department of the Interior, Bureau of Land Management Mother Lode Field office, El Dorado Hills, California.

U.S. Architectural and Transportation Barriers Compliance Board. 2002. Americans With Disabilities Act (ADA) Accessibility Guidelines for Buildings and Facilities. Washington, D.C.

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June 3, 2011

DRAFT**TURLOCK IRRIGATION DISTRICT
AND
MODESTO IRRIGATION DISTRICT****DON PEDRO PROJECT
FERC NO. 2299****Visual Resources Assessment Study Plan****June 2011****1.0 Project Nexus**

Turlock Irrigation District's and Modesto Irrigation District's (the Districts) continued operation and maintenance (O&M) of the Don Pedro Project (Project) has a potential to affect visual resources managed by the U.S. Department of Interior Bureau of Land Management (BLM) on federal lands within and adjacent to the Project.

2.0 Resource Management Goals of Agencies with Responsibility for the Resource to be Studied

BLM has interests in federal lands that they manage in and adjacent to the Project; and BLM has established visual resource management goals for these lands. BLM management goals are discussed below. The Districts have identified no other land managing agencies or government jurisdictional authorities with visual resource management goals pertinent to the Project.

In all, there are approximately 4,040 acres of federal lands within the Project Boundary. This represents approximately 22 percent of the total lands within the Project Boundary. These federal lands are part of a larger land unit managed by the BLM in accordance with the Sierra Resource Management Plan (SRMP; BLM 2008). BLM has indentified the lands within the Project Boundary as Visual Resource Management (VRM) areas in the SRMP. In the SRMP, the BLM described the following goals for these lands:

- Protect and enhance the scenic and visual integrity of the characteristic landscapes.
- Maintain the existing visual quality of the Lake Don Pedro/Highway 49 viewshed and the Red Hills ACEC.

The SRMP assigns inventory classes to visual resource areas within the Sierra Resource Management Area (SRMA). Management activities are evaluated in light of the adopted VRM class. The VRM classes within and adjacent to the Project are Class I, Class II, and Class III. Table 1 describes the three classes and the BLM land areas where they are assigned.

Table 1 BLM VRM classes in and adjacent to the Don Pedro Project Boundary.

	Description	Where Assigned
Class I	To preserve the existing character of the landscape. Any change to the characteristic landscape should be very low and must not attract attention.	Tuolumne Wild and Scenic River Corridor
Class II	To retain the existing character of the landscape. Any change to the characteristic landscape should be low.	Red Hills Area of Critical Environmental Concern
Class III	To partially retain the existing character of the landscape. Any change to the characteristic landscape may be moderate.	Lake Don Pedro/Highway 49 viewshed and all other BLM areas not specifically identified as having a particular VRM rating

3.0 Study Goals and Objectives

The goal of this study is to document current visual conditions of the Project as viewed from BLM lands during various times of the year and identify any adverse visual resource effects due to continued operations and maintenance (O&M) of the Project. The objectives of the study are to identify, map, and describe BLM inventories associated with Project facilities and features on public land administered by BLM; and document the existing visual condition (EVC) of all Project facilities and features from associated viewsheds on public land administered by BLM.

4.0 Existing Information and Need for Additional Information

The SRMP identifies and discusses the visual classes assigned to BLM lands within and adjacent to the Project, and adopts management goals for these resources. No specific documentation exists on the inherent aesthetics within these landscapes, or visibility or visual contrast of Project features associated with these BLM lands.

5.0 Study Methods

This study will assess the visual resources of the Don Pedro Project in relation to BLM visual resource management goals.

5.1 Study Area

The study area includes all Project facilities and features on public land administered by BLM, and their associated viewsheds. The viewsheds include travel routes, recreation areas, and water bodies from which the Project facilities and features on BLM-administered public land are visible to the public. Figure 1 identifies BLM-managed lands within and adjacent to the Don Pedro Project Boundary.

5.2 General Concepts and Procedures

The following general concepts apply to the study:

- Personal safety is an important consideration of each fieldwork team. The Districts and their consultants will perform the study in a safe manner.

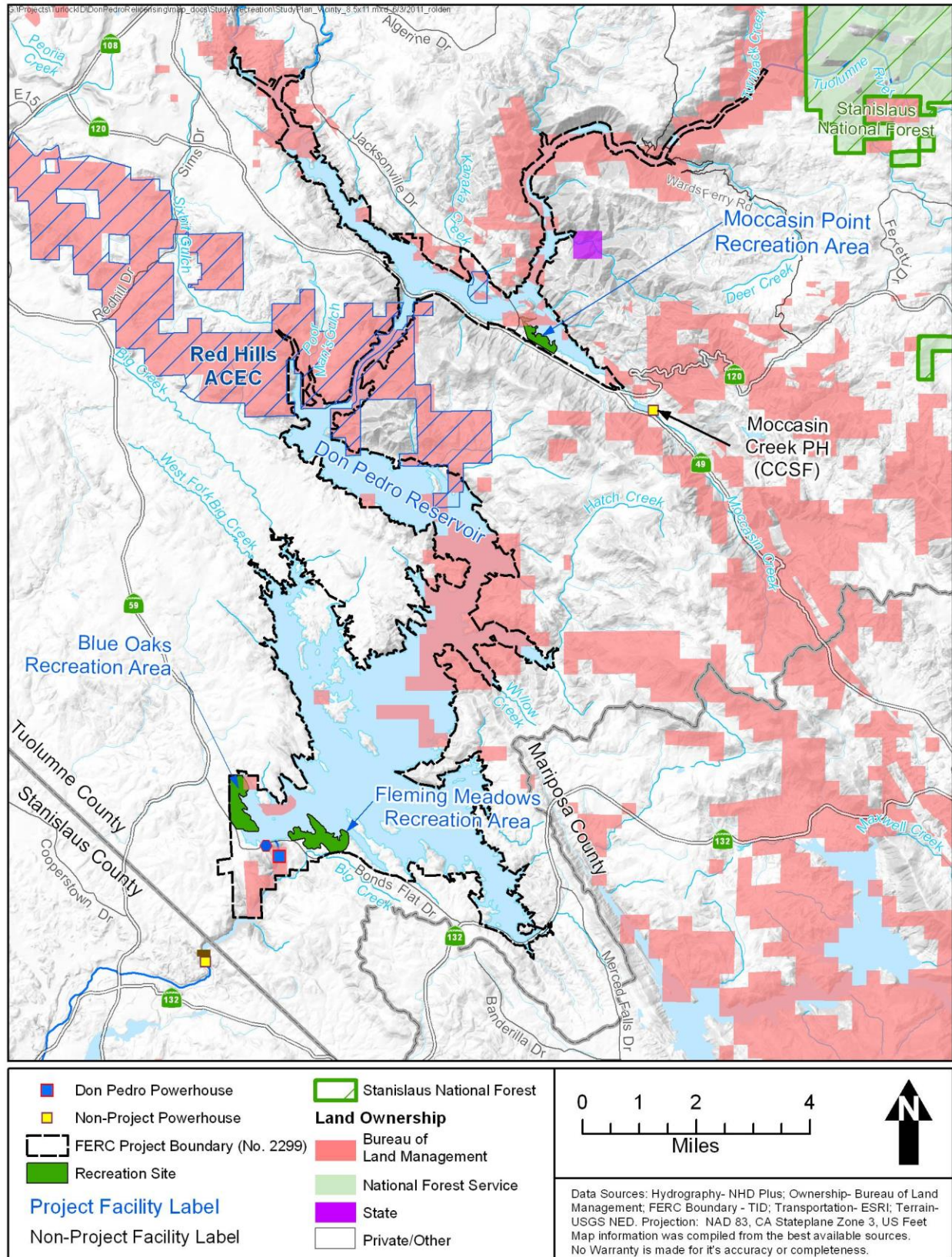


Figure 1 BLM-managed lands within and adjacent to the Don Pedro Project Boundary.

- The Districts will make a good faith effort to obtain permission to access private property where needed in advance of performance of the study. Field crews may make minor modifications in the field to adjust to and to accommodate actual field conditions and unforeseeable events. Any modifications made will be documented and reported in the draft study reports.

5.3 Study Methods

The study methods will follow BLM's VRM, which are described below (BLM 1986a, 1986b).

Step 1 - BLM VRM Inventories. Step 1 will involve identifying the visual resources of the area as viewed from BLM-administered public land. This step includes describing the landscape character of the region associated with the Project and then focusing on landscape character specific to the Project. Information from BLM's visual resource inventory process presented in the SRMP will be used.

Step 2 - Analysis. The analysis stage will involve determining whether the potential visual impacts from the Project, if any, meet the management objectives established for the BLM-administered public land. A visual contrast rating process will be used for this analysis, which involves comparing the Project features on BLM-administered public land with the major features in the existing landscape using the basic design elements of form, line, color, and texture. This process is described in BLM Handbook H-8431-1, Visual Resource Contrast Rating (BLM 1986a). The analysis will be used as a guide for describing any visual impacts. The Districts will:

1. Identify and map representative viewsheds in the study area associated with Project facilities and features. Map and summarize the Visual Resource Objectives (VROs) in the study area identified in the SRMP.
2. Identify and summarize the BLM land management direction associated with the VRM inventories relative to the Project facilities and features. Map the location of Project facilities and features with respect to their associated viewsheds and VRM inventories including VROs, variety classes, sensitivity levels, and distance zones. Photograph Project facilities from agreed upon Key Observation Points (KOPs).

Step 3 - Existing Visual Condition (EVC). The Districts will document the EVC of Project facilities and features on BLM-administered public land. The Districts will identify KOPs and photograph Project facilities and features, map and describe the locations of the KOPs, and photograph Project features (e.g., reservoir) from KOPs at various seasons of the year.

Step 4 - Prepare Report. The Districts will prepare a report that includes the following sections: Study Goals and Objectives; Methods and Analysis; Results; Discussion; and Description of Variances from the FERC-approved study plan, if any.

6.0 Schedule

The visual resources assessment is planned for 2012.

7.0 Consistency of Methodology with Generally Accepted Scientific Practices

The methods presented in this study plan are consistent with BLM's visual resource management protocols and study methods used in recent relicensings in California including most recently for the Merced Irrigation District's Lake McClure and McSwain Reservoir. Additional surveys with similar methodology include the Yuba-Bear/Drum-Spaulding Project's Lake Spaulding, Rollins Reservoir, Bowman Lake, Jackson Meadows Reservoir, Fordyce Lake and Lake Valley Reservoir.

8.0 Deliverables

The Districts will prepare a report on visual resources for inclusion in the Initial Study Report (ISR) to be filed on or before December 21, 2012.

9.0 References

- Bureau of Land Management. 1986a. Visual Resource Management BLM Handbook H-8431-1, Visual Resource Contrast Rating.
- . 1986b. Visual Resource Management BLM Handbook H-8410-1, Visual Resource Inventory.
- . 2008. Sierra Resource Management Plan and Record of Decision. U.S. Department of the Interior, Bureau of Land Management Mother Lode Field office, El Dorado Hills, California.

From: Staples, Rose
Sent: Monday, June 06, 2011 8:44 PM
To: Alves, Jim - City of Modesto; Asay, Lynette - N-R; Aud, John - SCERD; Barnes, James - BLM; Beuttler, John - CSPA; Bond, Jack - City of Modesto; Boucher, Allison - TRC; Boucher, Dave - Allison - TRC; Bowes, Stephen - NPS; Bowman, Art - CWRMP; Brewer, Doug - TetraTech; Brochini, Anthony - SSMN; Buckley, John - CSERC; Burt, Charles - CalPoly; Carlin, Michael - SFPUC; Catlett, Kelly - FOR; Charles, Cindy - GWWF; Cory, Philip - TNC; Costa, Jan - Chicken Ranch; Cowan, Jeffrey; Cox, Stanley Rob - TBMWI; Cranston, Peggy - BLM; Cremeen, Rebecca - CSERC; Day, P - MF; Devine, John; Donaldson, Milford Wayne - OHP; Dowd, Maggie-SNF; Drekmeier, Peter - TRT; Edmondson, Steve - NOAA; Eicher, James - BLM; Fety, Lauren - BLM; Findley, Timothy - Hanson Bridgett; Freeman, Beau - CalPoly; Fuller, Reba - TMTC; Furman, Donn W - SFPUC; Ganteinbein, Julie - Water-Power Law Grp; Giglio, Deborah - USFWS; Goode, Ron - NFMT; Gorman, Elaine - YSC; Gutierrez, Monica - NOAA-NMFS; Hastreiter, James L - FERC; Hatch, Jenny - CT; Hayat, Zahra - MF; Hellam, Anita - HH; Hersh-Burdick, Rachael - USACE; Heyne, Tim - CDFG; Holden, James ; Horn, Jeff - BLM; Horn, Tini; Hughes, Noah; Hughes, Robert - CDFG; Jackman, Jerry ; Jackson, Zac - USFWS; Jennings, William - CSPA; Jensen, Art - BAWSCA; Jensen, Laura - TNC; Johannis, Mary; Johnson, Brian - CalTrout; Justin; Kanz, Russ - SWRCB; Keating, Janice; Kempton, Kathryn - NOAA-MNFS; Kinney, Teresa; Koepele, Patrick - TRT; Lein, Joseph; Levin, Ellen - SFPUC; Lewis, Reggie - PRCI; Linkard, David - TRT /RH; Loy, Carin; Lyons, Bill - MR; Manji, Annie; Marko, Paul ; Marshall, Mike - RHH; Martin, Michael - MFFC; Mathiesen, Lloyd - CRRMW; McDaniel, Dan -CDWA; McDevitt, Ray - BAWSCA; McDonnell, Marty - SMRT; McLain, Jeffrey - NOAA-NMFS; Means, Julie - CDFG; Mills, John - TUD; Morningstar Pope, Rhonda - BVR; Motola, Mary - CT; O'Brien, Jennifer - CDFG; Orvis, Tom - SCFB; Ott, Bob; Ott, Chris; Pinhey, Nick - City of Modesto; Porter, Ruth - RHH; Powell, Melissa - CRRMW; Puccini, Stephen - CDFG; Raeder, Jessie - TRT; Ramirez, Tim - SFPUC; Rea, Maria - NOAA-NMFS; Reed, Rhonda - NOAA-NMFS; Richardson, Kevin - USACE; Robbins, Royal; Romano, David O - N-R; Roos-Collins, Richard - Water-Power Law Grp for NHI; Roseman, Jesse; Rothert, Steve - AR; Sandkulla, Nicole - BAWSCA; Schutte, Allison - HB; Sears, William - SFPUC; Shumway, Vern - SNF; Shutes, Chris - CSPA; Slay, Ronn - CNRF/AIC; Smith, Jim - MPM; Staples, Rose; Steindorf, Dave - AW; Stork, Ron - FOR; Stratton, Susan - CA SHPO; Taylor, Mary Jane - CDFG; TeVelde, George A ; Thompson, Larry - NOAA-MNFS; Verkuil, Colette - TRT/MF; Walters, Eric - MF; Wantuck, Rick - NOAA-NMFS; Welch, Steve - ARTA; Wesselman, Eric - TRT; Wheeler, Dan; Wheeler, Dave; Wheeler, Douglas - RHH; Williamson, Harry (NPS); Wilson, Bryan - MF; Winchell, Frank - FERC; Wood, Dave - FR; Wooster, John -NOAA; Workman, Michelle - USFWS; Yoshiyama, Ron; Zipser, Wayne - SCFB

Subject: Don Pedro Progress Tracking List

The Don Pedro Progress Tracking List, with the new items from the May 18-19 RWG meetings, has been posted to the www.donpedro-relicensing website in the Announcement section under INTRODUCTION!

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Don Pedro Progress Tracking List

Items completed are shaded in gray and will be moved to the CLOSED ITEM worksheet
before the next issue of the Progress Tracking List (PTL) is uploaded to the Relicensing Website.
Red Text indicates either NEW items or NEW responses/status updates added since the last upload.
(RP = Relicensing Participant) - Last Updated 6/06/2011 by R Staples

<i>Item No.</i>	<i>Source of Item</i>	<i>Item</i>	<i>Date Requested</i>	<i>Date Due</i>	<i>Responsible Party</i>	<i>Action Taken/Status</i>	<i>Date Closed</i>
		Items 1-5 Closed					
6	Several RPs	Procedure for managing study plan revisions on the Don Pedro website.	2/28/2011	3/18/2011	Districts	Process for sharing study plan revisions on the Don Pedro website to be described to RPs.	
		Items 7-10 Closed					
11	RPs	Provide a copy of this year's snow surveys used for forecasting.	4/1/2011	n/a	Districts	Districts' response in progress.	
12	RPs	Provide an historic account of the times and duration since project commencement that the reservoir has been into the flood conservation pool during the applicable period-frequency, number of occurrences, duration, and water year type.	4/1/2011	n/a	Districts	Districts' response in progress.	
13	RPs	Where, and when, is riparian water used--and how is it separated from storage? Is riparian water the water used on lands that meet the definition of "riparian lands"? Include a map of the lands that are served under a riparian claim. Provide season and amounts of water provided on those lands under claim of riparian right.	4/1/2011	n/a	Districts	Districts' response in progress.	
14	RPs	How long does the reservoir normally stay at the peak elevation it reaches in any year?	4/1/2011	n/a	Districts	Districts' response in progress.	
15	RPs	Provide the unimpaired flows at La Grange and the historical flows at La Grange since the Project began operating.	4/1/2011	n/a	Districts	Districts' response in progress.	

Don Pedro Project Tracking List

<i>Item No.</i>	<i>Source of Item</i>	<i>Item</i>	<i>Date Requested</i>	<i>Date Due</i>	<i>Responsible Party</i>	<i>Action Taken/Status</i>	<i>Date Closed</i>
16	RP's	Provide copies of the Districts' pre-1914 appropriative rights, as noted or recorded in accordance with the state laws at the time	4/1/2011	n/a	Districts	Districts' response in progress.	
17	RP's	Provide pre-settlement, post-new Don Pedro flows and reservoir elevations similar to which is provided in the PAD for post-settlement	4/1/2011	n/a	Districts	Districts' response in progress.	
18	RP's	What model will be used to develop the Project Operations Model?	4/1/2011	n/a	Districts	Districts' response in progress.	
19	RP's to CCSF	Is there a technical document that describes in some detail the operations of the HHWP?	4/1/2011	n/a	CCSF		
20	RP's to CCSF	What is the projected future water demand estimated by CCSF? Are new water storage resources being planned to meet the demand?	4/1/2011	n/a	CCSF		
21	RP's to CCSF	Provide the historical water bank "account balance" that the Districts have provided CCSF. Also, provide documentation on water bank accounting method.	4/1/2011	n/a	CCSF		
22	RP's to CCSF	Explain how the Don Pedro FERC relicensing process can affect CCSF.	4/1/2011	n/a	CCSF		
23	RP's to CCSF	What compensation does CCSF provide the Districts when CCSF's water bank account has a negative balance?	4/1/2011	n/a	CCSF		
24	RP's to CCSF	Could CCSF provide copies of the water balance reports it sends to the Districts?	4/1/2011	n/a	CCSF		
25	RP's to CCSF	Does CCSF have a water balance model it could share with relicensing participants? Or could CCSF provide portions of its water model to the Districts' water balance model?	4/1/2011	n/a	CCSF		

Don Pedro Project Tracking List

Item No.	Source of Item	Item	Date Requested	Date Due	Responsible Party	Action Taken/Status	Date Closed
26	RP's to CCSF	What quantity of water in acre feet will CCSF take annually from the river in the next 40 years, compared to same in the last 10 years? What will be the effect on pre-flood releases below Don Pedro?	4/1/2011	n/a	CCSF		
27	Recreation RWG Mtg	Districts were asked to Investigate relationship of the Project Boundary and the downstream Wild & Scenic River Boundary	4/19/2011	n/a	Districts	Districts' response in progress.	
28	Recreation RWG Mtg	Districts were asked to consider performing a "feasibility" or "site suitability" study of relocating or improving current take-out	4/19/2011	4/29/11; extended to 5/05/11, then 5/18/11	Districts	Districts responded via email 5/05/11 that they are reviewing the request and they expect to be able to respond on or before 5/18/11: see #84 for response	
29	Recreation RWG Mtg	NPS to provide new ORV guidelines applicable to the Project area.	4/19/2011	4/29/2011	NPS		
30	Recreation RWG Mtg	Districts' debris maintenance and log-jam removal/management appreciated. Districts were asked if it will continue as part of the new license?	4/19/2011	n/a	Districts	Districts' response in progress.	
Item 31 closed							
32	Recreation RWG Mtg	Districts were asked if they were planning to prepare a study plan for surveying recreational users to identify unmet demand, satisfaction levels, and need for additional facilities?	4/19/2011	4/29/2011; extended to 5/05/11; then 5/18/11	Districts	Districts responded via email 5/05/2011 that they are reviewing existing raw data and expect to be able to respond to this issue or or before 05/18/11.	
Item 33 closed							

Don Pedro Project Tracking List

<i>Item No.</i>	<i>Source of Item</i>	<i>Item</i>	<i>Date Requested</i>	<i>Date Due</i>	<i>Responsible Party</i>	<i>Action Taken/Status</i>	<i>Date Closed</i>
34	Recreation RWG Mtg	Districts were asked to consider the following study needs: (1) boatable flows on lower Tuolumne River (were fishery flows boatable) and possible need for additional put-ins/take-outs, (2) suitability of Wards Ferry take-out, (3) recreational use levels, visitor preferences and satisfaction, unmet demand, (4) existing facility condition assessment, including ADA accessibility, and (5) visual quality assessment, possibly photo documentation of visual quality at different water levels or landscape features to be brought into future planning of recreation improvements.	4/19/2011	n/a	Districts	See responses to Items 28, 32, 33, 43, and 57.	
35	Recreation RWG Mtg	The Districts were asked if Turlock Lake was stocked; and if so, with what?	4/19/2011	n/a	Districts	Districts' response in progress.	
		Item 36 closed					
37	Cultural RWG Mtg	Consistent standards of investigation must be used from area to area, probably adopt the BLM standards.	4/19/2011	n/a	Districts	Districts' response in progress.	
		Item 38 closed					
39	Cultural RWG Mtg	Agreement should be reached prior to field studies on how to handle discovery of human remains--and human remains on BLM lands. BLM does not delegate responsibility to FERC for handling human remains on BLM lands. The NID/PG&E process was satisfactory, including the providing of site records to BLM, why sites were not evaluated if this were to occur, and the content of Technical Memos.	4/19/2011	n/a	Districts	Districts' response in progress.	
		Item 40 closed					

Don Pedro Project Tracking List

<i>Item No.</i>	<i>Source of Item</i>	<i>Item</i>	<i>Date Requested</i>	<i>Date Due</i>	<i>Responsible Party</i>	<i>Action Taken/Status</i>	<i>Date Closed</i>
41	Cultural RWG Mtg	James Barnes to give suggestions for how to consider/approach isolets.	4/19/2011	n/a	BLM		
		Items 42-43 closed					
44	Water / Aquatic / Terrestrial RWG Mtg	The question was asked if Turlock Lake and Modesto Reservoir were stocked, by whom, and with what? Also, does Turlock Lake spill into the Tuolumne River?	4/20/2011	n/a	Districts	Districts' response in progress.	
		Item 45 closed					
46	Water / Aquatic / Terrestrial RWG Mtg	The question was asked if pikeminnow populatuion has increased over time? Districts to locate and distribute Tim Ford report developed using known information	4/20/2011	n/a	Districts	Districts' response in progress.	
47	Water / Aquatic / Terrestrial RWG Mtg	Districts were asked to provide a citation for study done for Merced Project relicensing on riffle habitat use.	4/20/2011	n/a	Districts	Districts' response in progress.	
		Items 48-49 closed					
50	Water / Aquatic / Terrestrial RWG Mtg	Question raised about period of time over which O. mykiss tracking occurred?	4/20/2011	n/a	Districts	Districts' response in progress.	
		Item 51 closed					
52	Water / Aquatic / Terrestrial RWG Mtg	It was asked what impact does flow have on moving predators out of prime spawning and rearing habitat?	4/20/2011	n/a	Districts	Districts' response in progress.	

Don Pedro Project Tracking List

<i>Item No.</i>	<i>Source of Item</i>	<i>Item</i>	<i>Date Requested</i>	<i>Date Due</i>	<i>Responsible Party</i>	<i>Action Taken/Status</i>	<i>Date Closed</i>
53	Water / Aquatic / Terrestrial RWG Mtg	The question was raised about the status of other native species in the lower Tuolumne River (including lamprey, sturgeon, and cyprinids)? It was also noted that reports of sturgeon in the Tuolumne have occurred; this was clarified to be an anecdotal observation by a riparian water user near the Grayson Ranch in late summer.	4/20/2011	n/a	Districts	Districts' response in progress.	
Items 54-57 closed							
58	Water / Aquatic / Terrestrial RWG Mtg	Districts were advised to consider the relationship between pollinator species, vernal pools, and special-status plants.	4/20/2011	n/a	Districts	Districts to consider modifying the current study plan.	
59	Water / Aquatic / Terrestrial RWG Mtg	Concern was raised about effect of dispersed recreation on sensitive areas (e.g. serpentine soils). Consider modifying current plan?	4/20/2011	n/a	Districts	Districts' response in progress.	
Items 60-64 closed							
65	Water / Aquatic / Terrestrial RWG Mtg	It was indicated that the Districts would likely be asked for a PM&E measure for periodic eagle monitoring. It was asked if the Districts would accept this; and if so, it would obviate the need for study now.	4/20/2011	n/a	Districts	Districts' response in progress.	
66	Water / Aquatic / Terrestrial RWG Mtg	Regarding water quality study plan, Is oxidation-reduction occurring at reservoir bottom?	4/20/2011	n/a	Districts	Districts' response in progress.	
67	Water / Aquatic / Terrestrial RWG Mtg	Regarding water quality study plan, will reservoir bathymetry be able to distinguish original ground from sediment?	4/20/2011	n/a	Districts	Districts' response in progress.	

Don Pedro Project Tracking List

<i>Item No.</i>	<i>Source of Item</i>	<i>Item</i>	<i>Date Requested</i>	<i>Date Due</i>	<i>Responsible Party</i>	<i>Action Taken/Status</i>	<i>Date Closed</i>
68	Water / Aquatic / Terrestrial RWG Mtg	Districts should consider getting ADCP readings between old Don Pedro and the new Don Pedro.	4/20/2011	n/a	Districts	Districts' response in progress.	
		Items 69-73 closed					
74	Water / Aquatic / Terrestrial RWG Mtg	Districts were asked to plot escapement vs total acre-feet released to the lower Tuolumne.	4/20/2011	n/a	Districts	Districts' response in progress.	
		Item 75 closed					
76	Water / Aquatic / Terrestrial RWG Mtg	It was mentioned that other potential data gaps were (1) potential to improve salmon success if timing of fall impulse flows were adjusted for actual water temperatures, (2) relationship between predation and water temperature, and (3) possible acoustic tagging of bass to track movements under different temperature and flow regimes.	4/20/2011	n/a	Districts	Districts' response in progress.	
		Items 77-78 closed					
79	Cultural RWG Mtg	Provide redline and clean copy of next revision of both Historic Properties and TCP study plans incorporating changes discussed at 5/18/11 meeting.	5/18/2011	6/3/2011	Districts	Districts to revise both Historic Properties and TCP study plan.	
80	Cultural RWG Mtg	R Fuller to provide information on preferred process for handling of human remains to be included in Study Plan.	5/18/2011	6/10/2011	R Fuller	D Risse, HDR, to follow up.	
81	Cultural RWG Mtg	F Winchell, FERC, requested that Districts send a separate letter to FERC requesting Section 106 designation of authority for Section 106 consultation.	5/18/2011	6/10/2011	HDR	Districts requested such designation in its NOI, but will send separate letter.	
82	Recreation RWG Mtg	Work group members are planning to request a visitor use survey.	5/18/2011	6/10/2011	Work Group RPs	Districts will respond in the July 25, 2011 Proposed Study Plan (PSP).	

Don Pedro Project Tracking List

Item No.	Source of Item	Item	Date Requested	Date Due	Responsible Party	Action Taken/Status	Date Closed
83	Recreation RWG Mtg	Districts asked to provide 2002/2003 recreation user survey DPRA conducted.	5/18/2011	6/3/2011	Districts	Completed; information posted.	
84	Recreation RWG Mtg	RPs asked Districts to confirm they would prepare a study plan of assessing improvements to the Wards Ferry takeout.	5/18/2011	6/3/2011	Districts	This was confirmed in the May 18th meeting (see PTL #28); the Districts also indicated they would not have a draft study plan issued before 06/10/2011.	
85	Recreation RWG Mtg	RPs asked if Facility Study Assessment Study Plan draft would be issued by June 3.	5/18/2011	6/3/2011	Districts	Districts uploaded draft study plan on 06/03/2011.	
86	Recreation RWG Mtg	Lower Tuolumne River boating study scope.	5/18/2011	7/25/2011	Districts	P Koepele to provide related information. Boating study may extend from Route 132 bridge to Turlock Lake State Park. Legion Park is an undesirable put-in because of the old Dennet Dam remnants.	
87	Water/Aquatic RWG Meeting	Don Pedro bathymetry work: A separate conference call was agreed-upon to discuss the ongoing bathymetry work.	5/19/2011	6/2/2011	Districts	Districts issued the data gathering protocol on May 27th and held a conference call on June 2. R Kranz and A Manji participated. Districts agreed to issue a redline version of the May 27th protocol to clarify/describe questions raised.	
88	Water/Aquatic RWG Meeting	Reservoir 3-D Model: RPs raised three concerns to be addressed in the July 25 Proposed Study Plan (PSP): (1) ease of use/computational time frame, (2) accuracy, and (3) ability for RPs to make model runs	5/19/2011	7/25/2011	Districts	Districts will respond in the July 25, 2011 Proposed Study Plan (PSP).	
89	Water/Aquatic RWG Meeting	Temperature Modeling: RPs raised a question of whether the reach of river between Don Pedro Dam and La Grange Dam will be modified and if additional temperature data needs to be collected in this reach	5/19/2011	7/25/2011	Districts	Districts will respond in the July 25, 2011 Proposed Study Plan (PSP).	

Don Pedro Project Tracking List

<i>Item No.</i>	<i>Souce of Item</i>	<i>Item</i>	<i>Date Requested</i>	<i>Date Due</i>	<i>Responsible Party</i>	<i>Action Taken/Status</i>	<i>Date Closed</i>
90	Water/Aquatic RWG Meeting	Operations Modeling: A question was asked whether the Districts would consider use of HEC RESSIM model instead of the Excel platform proposed.	5/19/2011	7/25/2011	Districts	Districts to consider and will respond.	
91	Water/Aquatic RWG Meeting	CEQA information: RPs noted that CEQA requires addressing the new greenhouse gas regulations.	5/19/2011	No date	Districts		
92	Water/Aquatic RWG Meeting	RPs reported that flows greater than 6,000 cfs affect Lower Tuolumne River farmland. Farmers asked how and when decisions are made on flow releases.	5/19/2011	No date	Districts		
93	Terrestrial RWG Meeting	Scope of Terrestrial-based study plans.	5/19/2011	7/25/2011	Districts & RPs	Districts are proposing to conduct studies where there are Project effects, not every acre inside the Project Boundary. RPs may not agree. Districts to develop a Project Affects map for discussion at the June 21 RWG meeting.	
94	Terrestrial RWG Meeting	Extent of dispersed recreational use.	5/19/2011	7/25/2011	Districts	Dispersed recreational areas primarily defined as areas that are both "usable and accessible". Districts to provide further definition.	
95	Terrestrial RWG Meeting	BLM asked if an invasive species or special-status species were located, would the Districts document the entire population?	5/19/2011	7/25/2011	Districts	Districts responded that "in general-yes" and would include further confirming language in the July 25, 2011 Proposed Study Plan.	

Don Pedro Progress Tracking List

CLOSED ITEMS

<i>Item No.</i>	<i>Source of Item</i>	<i>Item</i>	<i>Date Requested</i>	<i>Date Due</i>	<i>Responsible Party</i>	<i>Action Taken/Status</i>	<i>Date Closed</i>
1	RP	Poll of RPs for meeting availability and resource area interests.	2/28/2011	3/8/2011	Districts	Created Doodle Poll questionnaire and sent it to RPs via email on 3/2/2011. Responses due 03/07/2011. Poll completed 03/07/2011; 2011 meeting dates announced to RPs via email on 03/15/2011 and have been posted on website calendar	5/13/2011
2	CSPA; CDFG; and TRT	Use of an independent facilitator.	2/28/2011	n/a	n/a	Request documented; Districts' response emailed to RPs on 03/07/2011.	5/13/2011
3	Several RPs	Alternating the meeting locations for future meetings.	2/28/2011	3/11/2011	Districts	Request for alternating meeting locations to be considered. Districts' response emailed to RPs on 03/15/2011.	5/13/2011
4	Several RPs	Use of web conferencing as part of future meetings.	2/28/2011	3/11/2011	Districts	Request for web conferencing as part of the meeting to be considered. Districts' response emailed to RPs on 03/15/2011.	5/13/2011
5	NGOs	RPs not to have to pay for PAD reproduction costs.	2/28/2011	3/11/2011	Districts	Request for RPs not to have to pay for PAD reproduction costs to be considered. Districts' response emailed to RPs on 03/15/2011	5/13/2011
7	Several RPs	Exhibit G or other Project Boundary Maps for tailwater and Gasburg Creek areas.	2/28/2011	3/11/2011	Districts	Project Boundary Maps to be uploaded to the Don Pedro website. Two Project Boundary maps (showing area below the Don Pedro Dam) have been uploaded and RPs advised via email 03/15/2011.	5/13/2011

Don Pedro Project Tracking List

8	Districts	RP review of Relicensing Participants List in PAD (Appendix B) to identify additional parties interested in the relicensing.	2/28/2011	3/18/2011	RPs	RPs to advise Districts of additional interested parties and their contact information, if known. Additional names have been received and added to the Relicensing Participants Contact Email List	5/13/2011
9	NHI	"Discussion of Cumulative Impacts" to be an agenda item for the April 19-20 meeting.	2/28/2011	04/19-20/2011	Districts	"Discussion of Cumulative Impacts" to be added to the agenda for the April 19-20 RP meeting. Project effects were discussed at the April 19-20 RWG meetings	5/13/2011
10	RPs	Uploading of Meeting Slides to the Don Pedro ebsite.	2/28/2011	3/11/2011	Districts	Slides used at the Feb 28 RP meeting to be uploaded to the Don Pedro website. Meeting presentation slides have been uploaded and RPs advised via email 03/15/2011	5/13/2011
31	Recreation RWG Mtg	The question was asked that if dispersed recreational use was found to be impacting rare or sensitive plant areas, would Districts restrict such use?	4/19/2011	n/a	Districts	Districts responded to this during the meeting, noting that the new license application is likely to contain identification of unique or sensitive habitats, and it is not uncommon to restrict recreation access to those areas. In fact, some areas of the reservoir shoreline are already restricted.	
33	Recreation RWG Mtg	Districts were asked if the current flows on the lower Tuolumne are boatable and compatible with other uses (fishing)?	4/19/2011	n/a	Districts	Districts responded via email 5/05/11.	
36	Cultural RWG Mtg	Study plan should include the requirement for field investigators to have California archaeology experience.	4/19/2011	n/a	Districts	Study plan will include.	
38	Cultural RWG Mtg	James Barnes, BLM archaeologist, should be copied on all correspondence with the SHPO regarding Section 106 consultation.	4/19/2011	n/a	Districts	Will occur.	
40	Cultural RWG Mtg	It was suggested that the Districts visit the newly opened UC Davis collection.	4/19/2011	n/a	Districts	Districts will do.	

Don Pedro Project Tracking List

42	Cultural RWG Mtg	It was emphasized that "protect and preserve is the goal".	4/19/2011	n/a	Districts	Districts acknowledge this goal.	
43	Water / Aquatic / Terrestrial RWG Mtg	It was asked if it was the Districts' intention to perform a study that would develop a clear understanding of how flow relates to other stressors to the anadromous fisheries? Or perform a "limiting factors analysis" of each salmon life stage compared to individual stressors?	4/20/2011	4/29/2011; extended to 5/05/2011	Districts	Districts responded via email 5/05/11.	
45	Water / Aquatic / Terrestrial RWG Mtg	The question was asked where did the population of rainbow trout in La Grange Reservoir come from?	4/20/2011	n/a	Districts	It was noted at the meeting that no one knew the origin of this population..	
48	Water / Aquatic / Terrestrial RWG Mtg	It was pointed out that CDFG recently issued a draft EIR on section dredging that was still open for comment.	4/20/2011	n/a	n/a	No action required.	
49	Water / Aquatic / Terrestrial RWG Mtg	R Kanz requested a copy of the ongoing IFIM study plan be forwarded to him. It was also asked if any disease studies been conducted on anadromous fish in the Tuolumne River? CDFG to look into this and respond.	4/20/2011	n/a	Districts & CDFG	Districts to forward copy of ongoing IFIM study plan to R Kanz.	
51	Water / Aquatic / Terrestrial RWG Mtg	The question was asked if a study should be undertaken to determine effect on predator location in river with changing water temperature?	4/20/2011	n/a	Districts	N Hume responded during the meeting that he believed this could be addressed with existing data.	

Don Pedro Project Tracking List

54	Water / Aquatic / Terrestrial RWG Mtg	Question raised about the status of mussels in the lower Tuolumne River? Is this a data gap? It was reported that anecdotal observations were that prior to 1995 there were many mussels in the river and that now there are very few. Idea was offered that stranding may be a potential cause. It was pointed out that the Project no longer peaks, but RPs noted that flows change in accordance with seasonal downstream flow requirements.	4/20/2011	n/a	Districts	The Districts responded via email 5/05/11.	
55	Water / Aquatic / Terrestrial RWG Mtg	Districts were encouraged to refer to counties' weed watch list for additional information on invasive weeds.	4/20/2011	n/a	Districts	Districts will contact counties.	
56	Water / Aquatic / Terrestrial RWG Mtg	Districts were advised to refer to a study of cottonwoods in the Central Valley.	4/20/2011	n/a	Districts	The Districts advised in the meeting that this study, performed by Stella et al, was summarized in the PAD.	
57	Water / Aquatic / Terrestrial RWG Mtg	It was pointed out that the Districts were not proposing to perform a study dedicated to wetlands mapping and the potential project effects on wetlands. RPs wondered if this would not be needed/useful	4/20/2011	4/29/2011; extended to 5/05/2011	Districts	The Districts responded via email 5/05/11.	
60	Water / Aquatic / Terrestrial RWG Mtg	Concern about proposed size of areas to be studied around project facilities.	4/20/2011	na/a	Districts	Districts responded during the meeting that a possible approach to coming to site-specific agreement would be for BLM staff to join field investigators in the field to perform beta testing of appropriate area to study based on actual site observations. Study would have to be modified to indicate such an approach. It was noted that BLM may have limited staff time.	

Don Pedro Project Tracking List

61	Water / Aquatic / Terrestrial RWG Mtg	Districts were advised that the protocols for CRLF that were in the YT/DS study plan were acceptable.	4/20/2011	n/a	Districts	No response required.	
62	Water / Aquatic / Terrestrial RWG Mtg	Districts were asked to upload copy of proposed WPT protocols to the website	4/20/2011	n/a	Districts	Districts will do.	
63	Water / Aquatic / Terrestrial RWG Mtg	Zac Jackson to forward report which included observations of WPT downstream of the project.	4/20/2011	n/a	USFWS	The report has been forwarded.	
64	Water / Aquatic / Terrestrial RWG Mtg	Districts were asked to Include Critical Habitat maps in the ESA study plan.	4/20/2011	n/a	Districts	At the meeting, the Districts agreed to include Critical Habitat maps in the study plan.	
69	Water / Aquatic / Terrestrial RWG Mtg	Districts were asked if there would be a separate study plan for the 3D temperature model development?	4/20/2011	n/a	Districts	The Districts are developing a study plan for the 3D temperature model development.	
70	Water / Aquatic / Terrestrial RWG Mtg	It was suggested the Districts get data on flows and temps in Moccasin Creek; thought CCSF would have it?	4/20/2011	n/a	Districts	Districts will do.	
71	Water / Aquatic / Terrestrial RWG Mtg	Districts were asked if they would prepare a Study Plan for a Socioeconomic Study? It was suggested it would be needed for CEQA.	4/20/2011	4/29/2011; extended to 5/05/2011	Districts	Districts responded via email 5/05/11.	
72	Water / Aquatic / Terrestrial RWG Mtg	Districts were asked if they planned to conduct an analysis of projected population growth and irrigation use compared to their water rights? Study potential effects of such growth on water quality (due to less water being in the river).	4/20/2011	4/29/2011; extended to 5/05/2011	Districts	Districts responded via email 05/05/11.	

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73	Water / Aquatic / Terrestrial RWG Mtg	Districts were asked if they were going to evaluate benefits to fisheries with more flow being released to the river. Suggested that high-flow benefits was a data gap.	4/20/2011	n/a	Districts	Districts indicated in meeting that the current IFIM study is investigating that issue. Also, data from prior monitoring could also address that question.	
75	Water / Aquatic / Terrestrial RWG Mtg	It was suggested that a data gap existed as no data on number of salmon emerging from the gravel and the number leaving the Tuolumne.	4/20/2011	n/a	Districts	Districts responded in the meeting that they were uncertain how a one- or two-year study of this would inform any such gap, nor could they think of how to conduct such a study, nor could RPs when asked.	
77	Water / Aquatic / Terrestrial RWG Mtg	The Districts were asked if they were planning any reservoir fish population studies?	4/20/2011	n/a	Districts	Districts responded in the meeting that the reservoir fishery included both good cold and warm water fishery and both were healthy and viable based on the data it had. Reservoir fishery is primarily a stocked fishery. Because there was no evidence of a problem, therefore no apparent Project effect, the study would not be justified under the ILP.	
78	Water / Aquatic / Terrestrial RWG Mtg	It was requested the Districts provide a GIS layer describing the Project Boundary to the BLM.	4/20/2011	n/a	Districts	Districts will do.	

Nose Staples
HDR/DTA
Direct: 207-2

From: Staples, Rose on behalf of Devine, John
Sent: Wednesday, June 15, 2011 2:23 PM
To: Alves, Jim - City of Modesto; Asay, Lynette - N-R; Aud, John - SCERD; Barnes, James - BLM; Beuttler, John - CSPA; Bond, Jack - City of Modesto; Boucher, Allison - TRC; Boucher, Dave - Allison - TRC; Bowes, Stephen - NPS; Bowman, Art - CWRMP; Brewer, Doug - TetraTech; Brochini, Anthony - SSMN; Buckley, John - CSERC; Burt, Charles - CalPoly; Carlin, Michael - SFPUC; Catlett, Kelly - FOR; Charles, Cindy - GWWF; Cory, Philip - TNC; Costa, Jan - Chicken Ranch; Cowan, Jeffrey; Cox, Stanley Rob - TBMWI; Cranston, Peggy - BLM; Cremeen, Rebecca - CSERC; Day, P - MF; Devine, John; Donaldson, Milford Wayne - OHP; Dowd, Maggie-SNF; Drekmeier, Peter - TRT; Edmondson, Steve - NOAA; Eicher, James - BLM; Fety, Lauren - BLM; Findley, Timothy - Hanson Bridgett; Freeman, Beau - CalPoly; Fuller, Reba - TMTC; Furman, Donn W - SFPUC; Ganteinbein, Julie - Water-Power Law Grp; Giglio, Deborah - USFWS; Goode, Ron - NFMT; Gorman, Elaine - YSC; Gutierrez, Monica - NOAA-NMFS; Hastreiter, James L - FERC; Hatch, Jenny - CT; Hayat, Zahra - MF; Hellam, Anita - HH; Hersh-Burdick, Rachael - USACE; Heyne, Tim - CDFG; Holden, James ; Horn, Jeff - BLM; Horn, Tini; Hughes, Noah; Hughes, Robert - CDFG; Jackman, Jerry ; Jackson, Zac - USFWS; Jennings, William - CSPA; Jensen, Art - BAWSCA; Jensen, Laura - TNC; Johannis, Mary; Johnson, Brian - CalTrout; Justin; Kanz, Russ - SWRCB; Keating, Janice; Kempton, Kathryn - NOAA-MNFS; Kinney, Teresa; Koepele, Patrick - TRT; Lein, Joseph; Levin, Ellen - SFPUC; Lewis-Reggie-PRCI; Linkard, David - TRT /RH; Loy, Carin; Lyons, Bill - MR; Manji, Annie; Marko, Paul ; Marshall, Mike - RHH; Martin, Michael - MFFC; Mathiesen, Lloyd - CRRMW; McDaniel, Dan -CDWA; McDevitt, Ray - BAWSCA; McDonnell, Marty - SMRT; McLain, Jeffrey - NOAA-NMFS; Means, Julie - CDFG; Mills, John - TUD; Morningstar Pope, Rhonda - BVR; Motola, Mary - CT; O'Brien, Jennifer - CDFG; Orvis, Tom - SCFB; Ott, Bob; Ott, Chris; Pinhey, Nick - City of Modesto; Porter, Ruth - RHH; Powell, Melissa - CRRMW; Puccini, Stephen - CDFG; Raeder, Jessie - TRT; Ramirez, Tim - SFPUC; Rea, Maria - NOAA-NMFS; Reed, Rhonda - NOAA-NMFS; Richardson, Kevin - USACE; Robbins, Royal; Romano, David O - N-R; Roos-Collins, Richard - Water-Power Law Grp for NHI; Roseman, Jesse; Rothert, Steve - AR; Sandkulla, Nicole - BAWSCA; Schutte, Allison - HB; Sears, William - SFPUC; Shumway, Vern - SNF; Shutes, Chris - CSPA; Slay, Ronn - CNRF/AIC; Smith, Jim - MPM; Staples, Rose; Steindorf, Dave - AW; Stork, Ron - FOR; Stratton, Susan - CA SHPO; Taylor, Mary Jane - CDFG; TeVelde, George A ; Thompson, Larry - NOAA-MNFS; Verkuil, Colette - TRT/MF; Walters, Eric - MF; Wantuck, Rick - NOAA-NMFS; Welch, Steve - ARTA; Wesselman, Eric - TRT; Wheeler, Dan; Wheeler, Dave; Wheeler, Douglas - RHH; Williamson, Harry (NPS); Wilson, Bryan - MF; Winchell, Frank - FERC; Wood, Dave - FR; Wooster, John -NOAA; Workman, Michelle - USFWS; Yoshiyama, Ron; Zipser, Wayne - SCFB
Subject: Don Pedro Project RWG Meetings Scheduled for June 21-22

Don Pedro Relicensing Participants,

*Due to the large number of comments and study requests received (over 50 filings and 75 study requests with some still trickling in), it is necessary for the Districts to devote their time to responding to the study requests and preparing our Proposed Study Plan (PSP) document. **Therefore, we are cancelling the RP meetings originally scheduled for next week.** Over the next 45 days, if we have questions regarding individual study requests, we may communicate directly with the study requestor for clarification.*

We look forward to continuing to work with all Relicensing Participants throughout the 90-day period following our scheduled July 25 PSP submittal to discuss and revise, as appropriate, the PSP.

Thank you for your understanding on this matter.

John Devine, P.E.

Senior Vice President

HDR|DTA

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From: Staples, Rose
Sent: Thursday, June 16, 2011 7:55 PM
To: Alves, Jim - City of Modesto; Anderson, Craig - USFWS; Asay, Lynette - N-R; Aud, John - SCERD; Barnes, James - BLM; Beuttler, John - CSPA; Bond, Jack - City of Modesto; Boucher, Allison - TRC; Boucher, Dave - Allison - TRC; Bowes, Stephen - NPS; Bowman, Art - CWRMP; Brewer, Doug - TetraTech; Brochini, Anthony - SSMN; Brochini, Tony - NPS; Buckley, John - CSERC; Burt, Charles - CalPoly; Carlin, Michael - SFPUC; Catlett, Kelly - FOR; Charles, Cindy - GWWF; Cory, Philip - TNC; Costa, Jan - Chicken Ranch; Cowan, Jeffrey; Cox, Stanley Rob - TBMWI; Cranston, Peggy - BLM; Cremeen, Rebecca - CSERC; Day, P - MF; Devine, John; Donaldson, Milford Wayne - OHP; Dowd, Maggie-SNF; Drekeimer, Peter - TRT; Edmondson, Steve - NOAA; Eicher, James - BLM; Fety, Lauren - BLM; Findley, Timothy - Hanson Bridgett; Freeman, Beau - CalPoly; Fuller, Reba - TMTC; Furman, Donn W - SFPUC; Ganteinbein, Julie - Water-Power Law Grp; Giglio, Deborah - USFWS; Goode, Ron - NFMT; Gorman, Elaine - YSC; Gutierrez, Monica - NOAA-NMFS; Hastreiter, James L - FERC; Hatch, Jenny - CT; Hayat, Zahra - MF; Hellam, Anita - HH; Hersh-Burdick, Rachael - USACE; Heyne, Tim - CDFG; Holden, James ; Horn, Jeff - BLM; Horn, Tini; Hughes, Noah; Hughes, Robert - CDFG; Jackman, Jerry ; Jackson, Zac - USFWS; Jennings, William - CSPA; Jensen, Art - BAWSCA; Jensen, Laura - TNC; Johannis, Mary; Johnson, Brian - CalTrout; Justin; Kanz, Russ - SWRCB; Keating, Janice; Kempton, Kathryn - NOAA-MNFS; Kinney, Teresa; Koepele, Patrick - TRT; Lein, Joseph; Levin, Ellen - SFPUC; Lewis-Reggie-PRCI; Linkard, David - TRT /RH; Loy, Carin; Lwenya, Roselynn, BVR; Lyons, Bill - MR; Manji, Annie; Marko, Paul ; Marshall, Mike - RHH; Martin, Michael - MFFC; Mathiesen, Lloyd - CRRMW; McDaniel, Dan -CDWA; McDevitt, Ray - BAWSCA; McDonnell, Marty - SMRT; McLain, Jeffrey - NOAA-NMFS; Means, Julie - CDFG; Mills, John - TUD; Morningstar Pope, Rhonda - BVR; Motola, Mary - PRCI; O'Brien, Jennifer - CDFG; Orvis, Tom - SCFB; Ott, Bob; Ott, Chris; Pinhey, Nick - City of Modesto; Porter, Ruth - RHH; Powell, Melissa - CRRMW; Puccini, Stephen - CDFG; Raeder, Jessie - TRT; Ramirez, Tim - SFPUC; Rea, Maria - NOAA-NMFS; Reed, Rhonda - NOAA-NMFS; Richardson, Kevin - USACE; Robbins, Royal; Romano, David O - N-R; Roos-Collins, Richard - Water-Power Law Grp for NHI; Roseman, Jesse; Rothert, Steve - AR; Sandkulla, Nicole - BAWSCA; Schutte, Allison - HB; Sears, William - SFPUC; Shumway, Vern - SNF; Shutes, Chris - CSPA; Slay, Ronn - CNRF/AIC; Smith, Jim - MPM; Staples, Rose; Steindorf, Dave - AW; Stork, Ron - FOR; Stratton, Susan - CA SHPO; Taylor, Mary Jane - CDFG; TeVelde, George A ; Thompson, Larry - NOAA-MNFS; Vasquez, Sandy ; Verkuil, Colette - TRT/MF; Walters, Eric - MF; Wantuck, Rick - NOAA-NMFS; Welch, Steve - ARTA; Wesselman, Eric - TRT; Wheeler, Dan; Wheeler, Dave; Wheeler, Douglas - RHH; Williamson, Harry (NPS); Wilson, Bryan - MF; Winchell, Frank - FERC; Wood, Dave - FR; Wooster, John -NOAA; Workman, Michelle - USFWS; Yoshiyama, Ron; Zipser, Wayne - SCFB
Subject: Don Pedro Website Upload Today Include Updated PTL and Revised RedLine Bathymetry Study Plan

I have uploaded to the Don Pedro Relicensing Website today an updated Progress Tracking List (PTL) with some Districts and CCSF responses. In addition, I have uploaded a red-line version of the

Bathymetry Study Plan, which reflects suggestions and comments received from the Relicensing Participants during the June 2 Bathymetry Study Plan conference call.

Both of these documents, and attachments to the PTL, can be found as the first two ANNOUNCEMENTS on the INTRODUCTION page of the website www.donpedro-relicensing.com.

Rose Staples CPS CAP

Executive Assistant

HDR | DTA

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Don Pedro Progress Tracking List

Items completed are shaded in gray and will be moved to the CLOSED ITEM worksheet
before the next issue of the Progress Tracking List (PTL) is uploaded to the Relicensing Website.
Red Text indicates either NEW items or NEW responses/status updates added since the last upload.
(RP = Relicensing Participant) - Last Updated 6/16/2011 by R Staples

<i>Item No.</i>	<i>Source of Item</i>	<i>Item</i>	<i>Date Requested</i>	<i>Date Due</i>	<i>Responsible Party</i>	<i>Action Taken/Status</i>	<i>Date Closed</i>
		Items 1-5 Closed					
6	Several RPs	Procedure for managing study plan revisions on the Don Pedro website.	2/28/2011	3/18/2011	Districts	Process for sharing study plan revisions on the Don Pedro website to be described to RPs.	
		Items 7-10 Closed					
11	RPs	Provide a copy of this year's snow surveys used for forecasting.	4/1/2011	n/a	Districts	Snow survey data are from the DWR CDEC website. The Districts and CCSF help pay for that information, but DWR does the forecasting. Http://cdec.water.ca.gov/snow/current/snow/. A spreadsheet of historic values accompanies this tracking list.	
12	RPs	Provide an historic account of the times and duration since project commencement that the reservoir has been into the flood conservation pool during the applicable period-frequency, number of occurrences, duration, and water year type.	4/1/2011	n/a	Districts	A spreadsheet containing the requested information accompanies this tracking list.	
13	RPs	Where, and when, is riparian water used--and how is it separated from storage? Is riparian water the water used on lands that meet the definition of "riparian lands"? Include a map of the lands that are served under a riparian claim. Provide season and amounts of water provided on those lands under claim of riparian right.	4/1/2011	n/a	Districts	The Districts' response is in progress.	

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14	RP's	How long does the reservoir normally stay at the peak elevation it reaches in any year?	4/1/2011	n/a	Districts	In average to wet years, and depending on runoff rates, Don Pedro reaches its maximum level for the year between the last week in June and the second week in July--and then starts to drop off quickly due to the runoff ending and releases for irrigation increasing. The reservoir remains at its highest level for the year for a very short period, from a day to a week.	
15	RP's	Provide the unimpaired flows at La Grange and the historical flows at La Grange since the Project began operating.	4/1/2011	n/a	Districts	The two spreadsheets containing the requested information accompanies this tracking list.	
16	RP's	Provide copies of the Districts' pre-1914 appropriative rights, as noted or recorded in accordance with the state laws at the time.	4/1/2011	n/a	Districts	Districts' response in progress.	
17	RP's	Provide pre-settlement, post-new Don Pedro flows and reservoir elevations similar to which is provided in the PAD for post-settlement.	4/1/2011	n/a	Districts	See answer to Item 15 for flows. A spreadsheet containing the requested reservoir information also accompanies this tracking list.	
18	RP's	What model will be used to develop the Project Operations Model?	4/1/2011	n/a	Districts	This topic was discussed at the May 19 Aquatic/Water RWG meeting. The Districts will prepare and submit a Proposed Study Plan in its July 25 PSP.	
19	RP's to CCSF	Is there a technical document that describes in some detail the operations of the HHWP?	4/1/2011	n/a	CCSF	See the Regional Water System Hetch Hetchy Water&Power Operations Plan (URS 2006) at https://infrastructure.sfwater.org/fds/fds.aspx?lib=HHWP&doc=127205&data=39560755	

Don Pedro Project Tracking List

<i>Item No.</i>	<i>Source of Item</i>	<i>Item</i>	<i>Date Requested</i>	<i>Date Due</i>	<i>Responsible Party</i>	<i>Action Taken/Status</i>	<i>Date Closed</i>
20	RPs to CCSF	What is the projected future water demand estimated by CCSF? Are new water storage resources being planned to meet the demand?	4/1/2011	n/a	CCSF	See the Draft 2010 UWMP at http://sfwater.org/mto_main.cfm/MC_ID/13/MSC_ID/165/MTO_ID/286	
21	RPs to CCSF	Provide the historical water bank "account balance" that the Districts have provided CCSF. Also, provide documentation on water bank accounting method.	4/1/2011	n/a	CCSF	See attached "Response 21" for Instructions for Water Bank Accounting document (CCSF&Districts, 1971)	
22	RPs to CCSF	Explain how the Don Pedro FERC relicensing process can affect CCSF.	4/1/2011	n/a	CCSF	See attached "Response 22" for ALJ process testimony. Also see FEIS for Reservoir Release Requirement at Don Pedro; and pages 2-36 to 2-39, and page 2-42 to 2-43 of WSIP PEIR at http://sfwater.org/Project.cfm/MC_ID/35/MSC_ID/393/MTO_ID/649/PRJ_ID/216	
23	RPs to CCSF	What compensation does CCSF provide the Districts when CCSF's water bank account has a negative balance?	4/1/2011	n/a	CCSF	MID-TID have only consented once to SF request to "go negative" in the water bank through the history of the Project. See attached "Response 23".	
24	RPs to CCSF	Could CCSF provide copies of the water balance reports it sends to the Districts?	4/1/2011	n/a	CCSF	See attached "Response 24" for water bank accounting.	
25	RPs to CCSF	Does CCSF have a water balance model it could share with relicensing participants? Or could CCSF provide portions of its water model to the Districts' water balance model?	4/1/2011	n/a	CCSF	Yes, a watershed-wide water balance model is being developed.	

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Item No.	Source of Item	Item	Date Requested	Date Due	Responsible Party	Action Taken/Status	Date Closed
26	RP's to CCSF	What quantity of water in acre feet will CCSF take annually from the river in the next 40 years, compared to same in the last 10 years? What will be the effect on pre-flood releases below Don Pedro?	4/1/2011	n/a	CCSF	See the Draft 2010 UWMP at http://sfwater.org/mto_main.cfm/MC_ID/13/MSC_ID/165/MTO_ID/286 and the WSIP PEIR at http://sfwater.org/Project.cfm/MC_ID/35/MSC_ID/393/MTO_ID/649/PRJ_ID/216	
27	Recreation RWG Mtg	Districts were asked to Investigate relationship of the Project Boundary and the downstream Wild & Scenic River Boundary.	4/19/2011	n/a	Districts	The Districts can confirm that the Wild and Scenic Boundary overlaps into the Project Boundary, but not to Ward's Ferry. The Districts are continuing to seek more precise information.	
28	Recreation RWG Mtg	Districts were asked to consider performing a "feasibility" or "site suitability" study of relocating or improving current take-out.	4/19/2011	4/29/11; extended to 5/05/11, then 5/18/11	Districts	In the May 18 Recreation RWG meeting, the Districts agreed to including this study in the PSP to be filed on July 25.	
29	Recreation RWG Mtg	NPS to provide new ORV guidelines applicable to the Project area.	4/19/2011	4/29/2011	NPS	At the May 18 Recreation RWG meeting, NPS to provide guidelines prior to June 10.	
30	Recreation RWG Mtg	Districts' debris maintenance and log-jam removal/management appreciated. Districts were asked if it will continue as part of the new license?	4/19/2011	n/a	Districts	FERC will determine the new license's terms. The Districts are likely to continue their current practices.	
		Item 31 closed					
32	Recreation RWG Mtg	Districts were asked if they were planning to prepare a study plan for surveying recreational users to identify unmet demand, satisfaction levels, and need for additional facilities?	4/19/2011	4/29/2011; extended to 5/05/11; then 5/18/11	Districts	The Districts will post information to the website by May 20 for RPs to review.	
		Items 33-34 closed					

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35	Recreation RWG Mtg	The Districts were asked if Turlock Lake was stocked; and if so, with what?	4/19/2011	n/a	Districts	The Department of Fish and Game stocks catchable rainbows in this lake from April through October, normally a time when plants in low elevation reservoirs are suspended, because the water entering the lake from the Tuolumne River at La Grange Dam keeps the lake relatively cool. The DFG plants 5,000 pounds of rainbows annually in Turlock Lake. The trout are raised at the Moccasin Creek Fish Hatchery. Also, Allison Boucher reports that only rainbow trout are stocked, no warm water species.	
		Item 36 closed					
37	Cultural RWG Mtg	Consistent standards of investigation must be used from area to area, probably adopt the BLM standards.	4/19/2011	n/a	Districts	Historic Properties and TCP Study Plans have been revised to specify that the BLM guidelines will be followed.	
		Item 38 closed					
39	Cultural RWG Mtg	Agreement should be reached prior to field studies on how to handle discovery of human remains--and human remains on BLM lands. BLM does not delegate responsibility to FERC for handling human remains on BLM lands. The NID/PG&E process was satisfactory, including the providing of site records to BLM, why sites were not evaluated if this were to occur, and the content of Technical Memos.	4/19/2011	n/a	Districts	The Districts are working with the tribes and agencies to revise the language in the study plans regarding discovery of human remains.	
		Item 40 closed					
41	Cultural RWG Mtg	James Barnes to give suggestions for how to consider/approach isolets.	4/19/2011	n/a	BLM	The Districts are working with James Barnes to include an appropriate definition of isolets to be issued for the Historic Properties Study Plan.	

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		Items 42-43 closed					
44	Water / Aquatic / Terrestrial RWG Mtg	The question was asked if Turlock Lake and Modesto Reservoir were stocked, by whom, and with what? Also, does Turlock Lake spill into the Tuolumne River?	4/20/2011	n/a	Districts	See response to Item #35.	
		Item 45 closed					
46	Water / Aquatic / Terrestrial RWG Mtg	The question was asked if pikeminnow population has increased over time? Districts to locate and distribute Tim Ford report developed using known information.	4/20/2011	n/a	Districts	Districts' response in progress.	
47	Water / Aquatic / Terrestrial RWG Mtg	Districts were asked to provide a citation for study done for Merced Project relicensing on riffle habitat use.	4/20/2011	n/a	Districts	Allison Boucher provided the citation.	
		Item 48 closed					
49	Water / Aquatic / Terrestrial RWG Mtg	R Kanz requested a copy of the ongoing IFIM study plan be forwarded to him. It was also asked if any disease studies been conducted on anadromous fish in the Tuolumne River? CDFG to look into this and respond.	4/20/2011	n/a	Districts & CDFG	A copy of the IFIM plan has been posted to the Relicensing Website. CDFG's response is in progress.	
50	Water / Aquatic / Terrestrial RWG Mtg	Question raised about period of time over which O. mykiss tracking occurred?	4/20/2011	n/a	Districts	Tracking of six O. mykiss during 2010 was done from April 1 to November 1. The study results are contained in Volume II of the Don Pedro PAD (Page 5-115).	
		Item 51 closed					
52	Water / Aquatic / Terrestrial RWG Mtg	It was asked what impact does flow have on moving predators out of prime spawning and rearing habitat?	4/20/2011	n/a	Districts	Districts' response in progress.	

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53	Water / Aquatic / Terrestrial RWG Mtg	The question was raised about the status of other native species in the lower Tuolumne River (including lamprey, sturgeon, and cyprinids)? It was also noted that reports of sturgeon in the Tuolumne have occurred; this was clarified to be an anecdotal observation by a riparian water user near the Grayson Ranch in late summer.	4/20/2011	n/a	Districts	Locations of all fish species encountered during all seining, snorkel, RST, and other surveys have been documented. FERC Report 2002-9 includes a detailed assessment of flow and resident fish communities by Ford and Brown (2002). No corroboration of sturgeon observations has been made by routine sampling or other sources.	
		Items 54-57 closed					
58	Water / Aquatic / Terrestrial RWG Mtg	Districts were advised to consider the relationship between pollinator species, vernal pools, and special-status plants.	4/20/2011	n/a	Districts	Districts to consider modifying the current study plan.	
59	Water / Aquatic / Terrestrial RWG Mtg	Concern was raised about effect of dispersed recreation on sensitive areas (e.g. serpentine soils). Consider modifying current plan?	4/20/2011	n/a	Districts	Districts' response in progress.	
		Items 60-64 closed					
65	Water / Aquatic / Terrestrial RWG Mtg	It was indicated that the Districts would likely be asked for a PM&E measure for periodic eagle monitoring. It was asked if the Districts would accept this; and if so, it would obviate the need for study now.	4/20/2011	n/a	Districts	Districts' response in progress.	
66	Water / Aquatic / Terrestrial RWG Mtg	Regarding water quality study plan, Is oxidation-reduction occurring at reservoir bottom?	4/20/2011	n/a	Districts	The Study Plan will add a field measurement of oxidation-reduction to the Study Plan for hypolimnion samples, where physically practical. Don Pedro's great depth poses logistic difficulties for sampling water within centimeters of the bottom sediments.	

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67	Water / Aquatic / Terrestrial RWG Mtg	Regarding water quality study plan, will reservoir bathymetry be able to distinguish original ground from sediment?	4/20/2011	n/a	Districts	The type of bathymetric survey which we are performing will not provide detailed sedimentation estimates. We can get a general idea by comparing the existing operations reservoir stage/elevation and volume table to the area/capacity curve that we develop using the new bathymetric model, but a direct comparison would not be precise.	
68	Water / Aquatic / Terrestrial RWG Mtg	Districts should consider getting ADCP readings between old Don Pedro and the new Don Pedro.	4/20/2011	n/a	Districts	The Districts will consider getting ADCP readings at this location. ADCP readings could be useful to determine if there are any velocity gradients that exist over the old dam, and if any eddying/mixing is occurring downstream of the old dam. Key consideration will be (1) to determine whether or not ADCP is reliable at the depths that would be required here, (2) the feasibility of obtaining measurements at several reservoir elevations (the dynamics of flow over that old dam will change drastically depending on the depth of water over it, and (3) if it would be more straightforward to simply be sure to take several temperature profiles upstream, at and below the old dam, to get an understanding for the thermal mixing dynamics.	
		Items 69-73 closed					

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74	Water / Aquatic / Terrestrial RWG Mtg	Districts were asked to plot escapement vs total acre-feet released to the lower Tuolumne.	4/20/2011	n/a	Districts	Plots of escapement vs lagged flow (flow 3 years prior to a given run) are under preparation (a) period of record (b) since the completion of New Pedro Dam (escapement from 1974 to 2010 vs flows from 1971-2007).	
		Item 75 closed					
76	Water / Aquatic / Terrestrial RWG Mtg	It was mentioned that other potential data gaps were (1) potential to improve salmon success if timing of fall impulse flows were adjusted for actual water temperatures, (2) relationship between predation and water temperature, and (3) possible acoustic tagging of bass to track movements under different temperature and flow regimes.	4/20/2011	n/a	Districts	Districts' response in progress.	
		Items 77-78 closed					
79	Cultural RWG Mtg	Provide redline and clean copy of next revision of both Historic Properties and TCP study plans incorporating changes discussed at 5/18/11 meeting.	5/18/2011	6/3/2011	Districts	Districts to revise both Historic Properties and TCP study plan.	
80	Cultural RWG Mtg	R Fuller to provide information on preferred process for handling of human remains to be included in Study Plan.	5/18/2011	6/10/2011	R Fuller	D Risse, HDR, to follow up.	
81	Cultural RWG Mtg	F Winchell, FERC, requested that Districts send a separate letter to FERC requesting Section 106 designation of authority for Section 106 consultation.	5/18/2011	6/10/2011	HDR	Districts requested such designation in its NOI, but will send separate letter.	
82	Recreation RWG Mtg	Work group members are planning to request a visitor use survey.	5/18/2011	6/10/2011	Work Group RPs	Districts will respond in the July 25, 2011 Proposed Study Plan (PSP).	
83	Recreation RWG Mtg	Districts asked to provide 2002/2003 recreation user survey DPRA conducted.	5/18/2011	6/3/2011	Districts	Completed; information posted.	

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Item No.	Source of Item	Item	Date Requested	Date Due	Responsible Party	Action Taken/Status	Date Closed
84	Recreation RWG Mtg	RPs asked Districts to confirm they would prepare a study plan of assessing improvements to the Wards Ferry takeout.	5/18/2011	6/3/2011	Districts	This was confirmed in the May 18th meeting (see PTL #28); the Districts also indicated they would not have a draft study plan issued before 06/10/2011.	
85	Recreation RWG Mtg	RPs asked if Facility Study Assessment Study Plan draft would be issued by June 3.	5/18/2011	6/3/2011	Districts	Districts uploaded draft study plan on 06/03/2011.	
86	Recreation RWG Mtg	Lower Tuolumne River boating study scope.	5/18/2011	7/25/2011	Districts	P Koepele to provide related information. Boating study may extend from Route 132 bridge to Turlock Lake State Park. Legion Park is an undesirable put-in because of the old Dennet Dam remnants.	
87	Water/Aquatic RWG Meeting	Don Pedro bathymetry work: A separate conference call was agreed-upon to discuss the ongoing bathymetry work.	5/19/2011	6/2/2011	Districts	Districts issued the data gathering protocol on May 27th and held a conference call on June 2. R Kranz and A Manji participated. Districts agreed to issue a redline version of the May 27th protocol to clarify/describe questions raised.	
88	Water/Aquatic RWG Meeting	Reservoir 3-D Model: RPs raised three concerns to be addressed in the July 25 Proposed Study Plan (PSP): (1) ease of use/computational time frame, (2) accuracy, and (3) ability for RPs to make model runs.	5/19/2011	7/25/2011	Districts	Districts will respond in the July 25, 2011 Proposed Study Plan (PSP).	
89	Water/Aquatic RWG Meeting	Temperature Modeling: RPs raised a question of whether the reach of river between Don Pedro Dam and La Grange Dam will be modified and if additional temperature data needs to be collected in this reach.	5/19/2011	7/25/2011	Districts	Districts will respond in the July 25, 2011 Proposed Study Plan (PSP).	
90	Water/Aquatic RWG Meeting	Operations Modeling: A question was asked whether the Districts would consider use of HEC RESSIM model instead of the Excel platform proposed.	5/19/2011	7/25/2011	Districts	Districts to consider and will respond.	

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91	Water/Aquatic RWG Meeting	CEQA information: RPs noted that CEQA requires addressing the new greenhouse gas regulations.	5/19/2011	No date	Districts		
92	Water/Aquatic RWG Meeting	RPs reported that flows greater than 6,000 cfs affect Lower Tuolumne River farmland. Farmers asked how and when decisions are made on flow releases.	5/19/2011	No date	Districts		
93	Terrestrial RWG Meeting	Scope of Terrestrial-based study plans.	5/19/2011	7/25/2011	Districts & RPs	Districts are proposing to conduct studies where there are Project effects, not every acre inside the Project Boundary. RPs may not agree. Districts to develop a Project Affects map for discussion at the June 21 RWG meeting.	
94	Terrestrial RWG Meeting	Extent of dispersed recreational use.	5/19/2011	7/25/2011	Districts	Dispersed recreational areas primarily defined as areas that are both "usable and accessible". Districts to provide further definition.	
95	Terrestrial RWG Meeting	BLM asked if an invasive species or special-status species were located, would the Districts document the entire population?	5/19/2011	7/25/2011	Districts	Districts responded that "in general-yes" and would include further confirming language in the July 25, 2011 Proposed Study Plan.	

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96	Aquatics	Clarification of "data gap" study request addressed in email of 5 May 2011. It was advised that the April 20th request was that the Districts undertake a study to evaluate the relative effects of project ops and other stressors on these fisheries in the lower Tuolumne. How do project ops affect each of these fisheries--its population, geographic distribution, age distribution, or habitat, whether overall or by life stage? Can you distinguish the effects of the project relative to other stressors? To the statement that certain non-project stressors are "among the most significant", 5 questions were asked: (1) What do you mean by significant? (2) What is the basis for conclusion that non-project stressors listed have significant effects? (3) Since a comparative term was used ("among the most significant"), what evidence in the existing record is the basis for the comparison? (4) Does the existing record show whether project ops are a stressor for these fisheries? and (5) Does the existing record show whether the project ops are a significant stressor?	5/18/2011	7/25/2011	Districts	Email Response of June 14, 2011 to the five questions asked: (1) It means having an "influence", (2) The existing data and studies undertaken by the Districts and others provide the information from which this conclusion is drawn. We would refer you to the various studies on the TR TAC website and the ALJ testimony, (3) Response to question 2 provides the general sources of the information; all of these documents might not yet be on the record of the relicensing proceeding, (4) We are sure there are many differing opinions on this question. We encourage you to review the data available on the TR TAC, the PAD, and the FERC website to help inform your opinion, and (5) Please see response above.	

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CLOSED ITEMS

<i>Item No.</i>	<i>Source of Item</i>	<i>Item</i>	<i>Date Requested</i>	<i>Date Due</i>	<i>Responsible Party</i>	<i>Action Taken/Status</i>	<i>Date Closed</i>
1	RP	Poll of RPs for meeting availability and resource area interests.	2/28/2011	3/8/2011	Districts	Created Doodle Poll questionnaire and sent it to RPs via email on 3/2/2011. Responses due 03/07/2011. Poll completed 03/07/2011; 2011 meeting dates announced to RPs via email on 03/15/2011 and have been posted on website calendar	5/13/2011
2	CSPA; CDFG; and TRT	Use of an independent facilitator.	2/28/2011	n/a	n/a	Request documented; Districts' response emailed to RPs on 03/07/2011.	5/13/2011
3	Several RPs	Alternating the meeting locations for future meetings.	2/28/2011	3/11/2011	Districts	Request for alternating meeting locations to be considered. Districts' response emailed to RPs on 03/15/2011.	5/13/2011
4	Several RPs	Use of web conferencing as part of future meetings.	2/28/2011	3/11/2011	Districts	Request for web conferencing as part of the meeting to be considered. Districts' response emailed to RPs on 03/15/2011.	5/13/2011
5	NGOs	RPs not to have to pay for PAD reproduction costs.	2/28/2011	3/11/2011	Districts	Request for RPs not to have to pay for PAD reproduction costs to be considered. Districts' response emailed to RPs on 03/15/2011	5/13/2011
7	Several RPs	Exhibit G or other Project Boundary Maps for tailwater and Gasburg Creek areas.	2/28/2011	3/11/2011	Districts	Project Boundary Maps to be uploaded to the Don Pedro website. Two Project Boundary maps (showing area below the Don Pedro Dam) have been uploaded and RPs advised via email 03/15/2011.	5/13/2011

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8	Districts	RP review of Relicensing Participants List in PAD (Appendix B) to identify additional parties interested in the relicensing.	2/28/2011	3/18/2011	RPs	RPs to advise Districts of additional interested parties and their contact information, if known. Additional names have been received and added to the Relicensing Participants Contact Email List	5/13/2011
9	NHI	"Discussion of Cumulative Impacts" to be an agenda item for the April 19-20 meeting.	2/28/2011	04/19-20/2011	Districts	"Discussion of Cumulative Impacts" to be added to the agenda for the April 19-20 RP meeting. Project effects were discussed at the April 19-20 RWG meetings	5/13/2011
10	RPs	Uploading of Meeting Slides to the Don Pedro ebsite.	2/28/2011	3/11/2011	Districts	Slides used at the Feb 28 RP meeting to be uploaded to the Don Pedro website. Meeting presentation slides have been uploaded and RPs advised via email 03/15/2011	5/13/2011
31	Recreation RWG Mtg	The question was asked that if dispersed recreational use was found to be impacting rare or sensitive plant areas, would Districts restrict such use?	4/19/2011	n/a	Districts	Districts responded to this during the meeting, noting that the new license application is likely to contain identification of unique or sensitive habitats, and it is not uncommon to restrict recreation access to those areas. In fact, some areas of the reservoir shoreline are already restricted.	
33	Recreation RWG Mtg	Districts were asked if the current flows on the lower Tuolumne are boatable and compatible with other uses (fishing)?	4/19/2011	n/a	Districts	Districts responded via email 5/05/11.	

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34	Recreation RWG Mtg	Districts were asked to consider the following study needs: (1) boatable flows on lower Tuolumne River (were fishery flows boatable) and possible need for additional put-ins/take-outs, (2) suitability of Wards Ferry take-out, (3) recreational use levels, visitor preferences and satisfaction, unmet demand, (4) existing facility condition assessment, including ADA accessibility, and (5) visual quality assessment, possibly photo documentation of visual quality at different water levels or landscape features to be brought into future planning of recreation improvements.	4/19/2011	n/a	Districts	See responses to Items 28, 32, 33, 43, and 57.	
36	Cultural RWG Mtg	Study plan should include the requirement for field investigators to have California archaeology experience.	4/19/2011	n/a	Districts	Study plan will include.	
38	Cultural RWG Mtg	James Barnes, BLM archaeologist, should be copied on all correspondence with the SHPO regarding Section 106 consultation.	4/19/2011	n/a	Districts	Will occur.	
40	Cultural RWG Mtg	It was suggested that the Districts visit the newly opened UC Davis collection.	4/19/2011	n/a	Districts	Districts will do.	
42	Cultural RWG Mtg	It was emphasized that "protect and preserve is the goal".	4/19/2011	n/a	Districts	Districts acknowledge this goal.	
43	Water / Aquatic / Terrestrial RWG Mtg	It was asked if it was the Districts' intention to perform a study that would develop a clear understanding of how flow relates to other stressors to the anadromous fisheries? Or perform a "limiting factors analysis" of each salmon life stage compared to individual stressors?	4/20/2011	4/29/2011; extended to 5/05/2011	Districts	Districts responded via email 5/05/11.	
45	Water / Aquatic / Terrestrial RWG Mtg	The question was asked where did the population of rainbow trout in La Grange Reservoir come from?	4/20/2011	n/a	Districts	It was noted at the meeting that no one knew the origin of this population..	

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48	Water / Aquatic / Terrestrial RWG Mtg	It was pointed out that CDFG recently issued a draft EIR on section dredging that was still open for comment.	4/20/2011	n/a	n/a	No action required.	
51	Water / Aquatic / Terrestrial RWG Mtg	The question was asked if a study should be undertaken to determine effect on predator location in river with changing water temperature?	4/20/2011	n/a	Districts	N Hume responded during the meeting that he believed this could be addressed with existing data.	
54	Water / Aquatic / Terrestrial RWG Mtg	Question raised about the status of mussels in the lower Tuolumne River? Is this a data gap? It was reported that anecdotal observations were that prior to 1995 there were many mussels in the river and that now there are very few. Idea was offered that stranding may be a potential cause. It was pointed out that the Project no longer peaks, but RPs noted that flows change in accordance with seasonal downstream flow requirements.	4/20/2011	n/a	Districts	The Districts responded via email 5/05/11.	
55	Water / Aquatic / Terrestrial RWG Mtg	Districts were encouraged to refer to counties' weed watch list for additional information on invasive weeds.	4/20/2011	n/a	Districts	Districts will contact counties.	
56	Water / Aquatic / Terrestrial RWG Mtg	Districts were advised to refer to a study of cottonwoods in the Central Valley.	4/20/2011	n/a	Districts	The Districts advised in the meeting that this study, performed by Stella et al, was summarized in the PAD.	
57	Water / Aquatic / Terrestrial RWG Mtg	It was pointed out that the Districts were not proposing to perform a study dedicated to wetlands mapping and the potential project effects on wetlands. RPs wondered if this would not be needed/useful	4/20/2011	4/29/2011; extended to 5/05/2011	Districts	The Districts responded via email 5/05/11.	

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60	Water / Aquatic / Terrestrial RWG Mtg	Concern about proposed size of areas to be studied around project facilities.	4/20/2011	na/a	Districts	Districts responded during the meeting that a possible approach to coming to site-specific agreement would be for BLM staff to join field investigators in the field to perform beta testing of appropriate area to study based on actual site observations. Study would have to be modified to indicate such an approach. It was noted that BLM may have limited staff time.	
61	Water / Aquatic / Terrestrial RWG Mtg	Districts were advised that the protocols for CRLF that were in the YT/DS study plan were acceptable.	4/20/2011	n/a	Districts	No response required.	
62	Water / Aquatic / Terrestrial RWG Mtg	Districts were asked to upload copy of proposed WPT protocols to the website	4/20/2011	n/a	Districts	Districts will do.	
63	Water / Aquatic / Terrestrial RWG Mtg	Zac Jackson to forward report which included observations of WPT downstream of the project.	4/20/2011	n/a	USFWS	The report has been forwarded.	
64	Water / Aquatic / Terrestrial RWG Mtg	Districts were asked to Include Critical Habitat maps in the ESA study plan.	4/20/2011	n/a	Districts	At the meeting, the Districts agreed to include Critical Habitat maps in the study plan.	
69	Water / Aquatic / Terrestrial RWG Mtg	Districts were asked if there would be a separate study plan for the 3D temperature model development?	4/20/2011	n/a	Districts	The Districts are developing a study plan for the 3D temperature model development.	
70	Water / Aquatic / Terrestrial RWG Mtg	It was suggested the Districts get data on flows and temps in Moccasin Creek; thought CCSF would have it?	4/20/2011	n/a	Districts	Districts will do.	
71	Water / Aquatic / Terrestrial RWG Mtg	Districts were asked if they would prepare a Study Plan for a Socioeconomic Study? It was suggested it would be needed for CEQA.	4/20/2011	4/29/2011; extended to 5/05/2011	Districts	Districts responded via email 5/05/11.	

Don Pedro Project Tracking List

72	Water / Aquatic / Terrestrial RWG Mtg	Districts were asked if they planned to conduct an analysis of projected population growth and irrigation use compared to their water rights? Study potential effects of such growth on water quality (due to less water being in the river).	4/20/2011	4/29/2011; extended to 5/05/2011	Districts	Districts responded via email 05/05/11.	
73	Water / Aquatic / Terrestrial RWG Mtg	Districts were asked if they were going to evaluate benefits to fisheries with more flow being released to the river. Suggested that high-flow benefits was a data gap.	4/20/2011	n/a	Districts	Districts indicated in meeting that the current IFIM study is investigating that issue. Also, data from prior monitoring could also address that question.	
75	Water / Aquatic / Terrestrial RWG Mtg	It was suggested that a data gap existed as no data on number of salmon emerging from the gravel and the number leaving the Tuolumne.	4/20/2011	n/a	Districts	Districts responded in the meeting that they were uncertain how a one- or two-year study of this would inform any such gap, nor could they think of how to conduct such a study, nor could RPs when asked.	
77	Water / Aquatic / Terrestrial RWG Mtg	The Districts were asked if they were planning any reservoir fish population studies?	4/20/2011	n/a	Districts	Districts responded in the meeting that the reservoir fishery included both good cold and warm water fishery and both were healthy and viable based on the data it had. Reservoir fishery is primarily a stocked fishery. Because there was no evidence of a problem, therefore no apparent Project effect, the study would not be justified under the ILP.	
78	Water / Aquatic / Terrestrial RWG Mtg	It was requested the Districts provide a GIS layer describing the Project Boundary to the BLM.	4/20/2011	n/a	Districts	Districts will do.	

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**TURLOCK IRRIGATION DISTRICT
AND
MODESTO IRRIGATION DISTRICT**

**DON PEDRO HYDROELECTRIC PROJECT
FERC NO. 2299**

Bathymetric and Surface Temperature Data Collection for Don Pedro Reservoir

~~May-June~~ 16, 2011

1.0 Project Nexus

Turlock Irrigation District and Modesto Irrigation District's (TID and MID or Districts) continued operation and maintenance (O&M) of the Don Pedro Hydroelectric Project (Project) has a potential to affect water temperature. In particular, stratification of the reservoir affects the amount of cold water stored in Don Pedro Reservoir.

The Districts plan to develop a 3-D water temperature model that requires bathymetry information as input. Bathymetric data will also provide a better understanding of the elevation-reservoir storage relationship of the reservoir.

2.0 Resource Management Goals of Agencies with Responsibility for the Resource to be Studied

The Districts believe that two agencies have jurisdiction over water temperature in the reservoir: (1) the California Department of Fish and Game (CDFG) and (2) the State Water Resources Control Board, Division of Water Rights (SWRCB). Each of these agencies and their jurisdiction and management direction, as understood by the Districts at this time, is described below.

CDFG's goal is to preserve; to protect; and, as needed, to restore habitat necessary to support native fish, wildlife and plant species.

SWRCB has authority under the federal Clean Water Act (33 U.S.C. §11251-1357) to restore and maintain the chemical, physical, and biological integrity of the Nation's waters. Throughout the relicensing process, the SWRCB maintains independent regulatory authority to condition the operation of the Project to protect water quality and the beneficial uses of stream reaches

consistent with Section 401 of the federal Clean Water Act, the Regional Water Quality Control Board Basin Plans, State Water Board regulations, CEQA, and any other applicable state law.

3.0 Study Goals and Objectives

This study is needed as input for the proposed 3-D water temperature model and to update the historical reservoir elevation-storage curve. Though monthly profiles collected by CDFG since 2004 will be the predominant dataset used for the 3-D model's verification and calibration and verification, water temperature data collected concurrently with the bathymetric data will also support the effort. Thermal data will support calibration efforts for the 3-D water temperature model.

4.0 Existing Information and Need for Additional Information

Previous detailed bathymetric data are not available for the Don Pedro Reservoir. It appears that the only data available to define the original reservoir bathymetry is USGS 15 -minute quadrangle maps developed prior to the construction of the new Don Pedro Project. These are not of sufficient detail to define the current bathymetric characteristics of the reservoir.

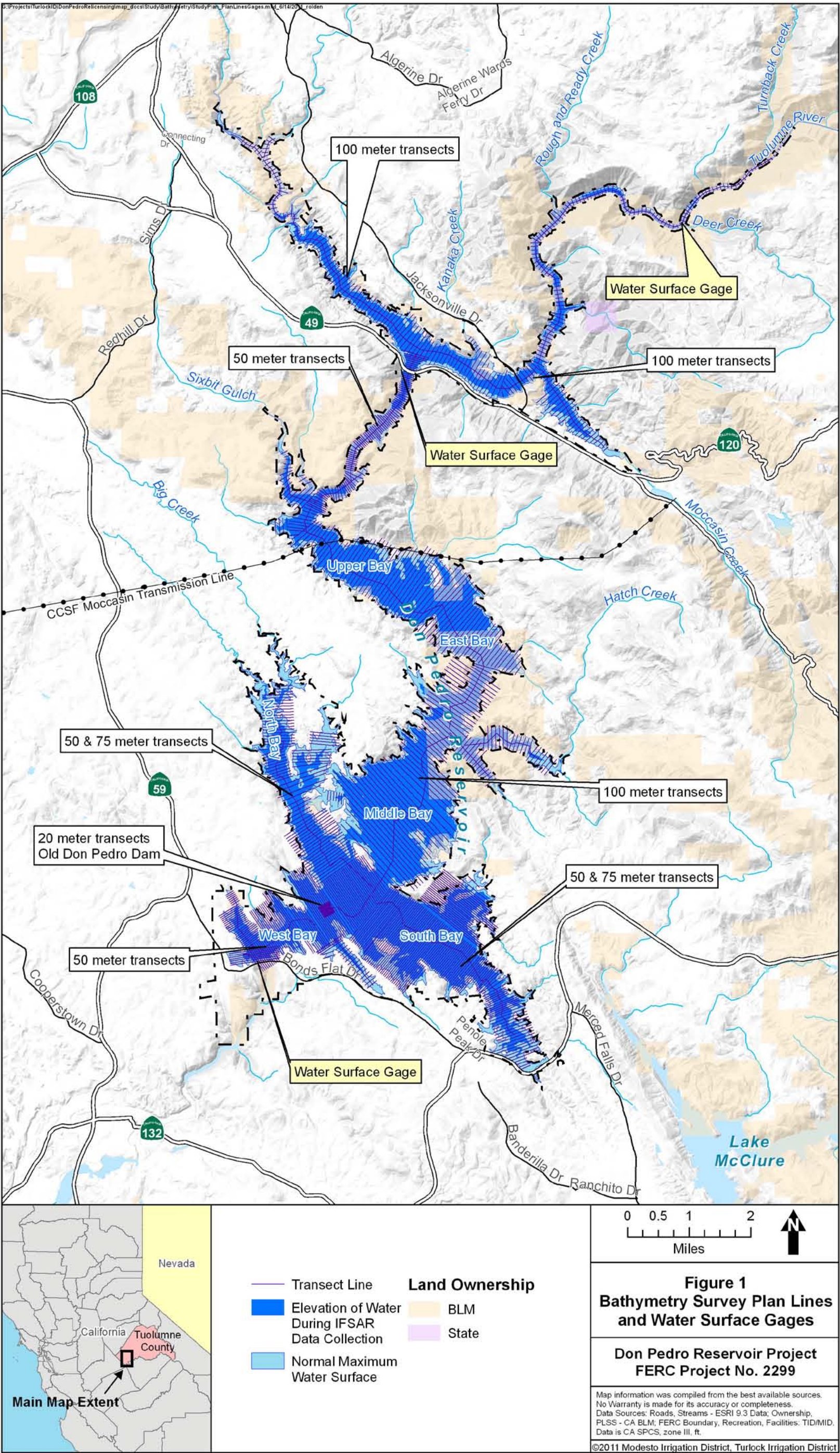
CDFG has collected monthly water temperature profiles from six locations in Don Pedro Reservoir for several years and profiles collected by CDFG, from 2004 through and including the present, effectively characterize Don Pedro Reservoir's vertical thermal trends. A seventh profile location, upstream of the old Don Pedro Dam, would provide insight into temperature dynamics at this location. Profiles collected during the bathymetry fieldwork will provide a temperature-related link between the bathymetry data and CDFG's long term data-set.

5.0 Study Methods and Analysis

Bathymetry data collected with the reservoir water surface at approximately elevation 790 feet (ft) will be combined with IFSAR topographic mapping, obtained by the Districts' when the water surface elevation was at approximately 760 ft, to develop a full description of the reservoir geometry and depth-area-storage relationships.

5.1 Study Area

This study will take place at Don Pedro Reservoir in Tuolumne County, California. The study area consists of Don Pedro Reservoir below the Project Boundary at an elevation of approximately 860 ft, as depicted in Figure 1.



5.2 General Concepts and Procedures

The following general concepts apply to the study:

- Personal safety is an important consideration of each fieldwork team. The Districts and their consultants will perform the study in a safe manner.
- The Districts will make a good faith effort to obtain permission in advance of performance of the study to access private property where needed. Field crews may make minor modifications in the field to adjust to and to accommodate actual field conditions and unforeseeable events. Any modifications made will be documented and reported in the draft study reports.

5.3 Study Methods

The plan for developing the bathymetric model of Don Pedro Reservoir is presented below in five subsections: (1) preparation, (2) field data collection, (3) data processing, (4) quality assurance/quality control, and (5) documentation and reporting.

5.3.1 Preparation

Before data collection begins, transects spaced at 50, 75, 100 meter intervals oriented approximately perpendicular to the longitudinal axis of the reservoir will be established using the bathymetric data collection software, Hypack. In addition to the standard transects, at least one perpendicular “tie line”, oriented approximately parallel to the longitudinal axis of the reservoir will be established to ensure inter-transect data consistency. Transects will cover the entire reservoir at the water elevations observed during the time of the field data collection.

The location of the Old Don Pedro Dam, inundated by the construction of the new dam, has been estimated using historical USGS topographic maps. A 20 meter transect spacing will be developed in the area of the Old Don Pedro Dam to establish the geometry and location of the old dam.

5.3.2 Field Data Collection

5.3.2.1 Bathymetric Data

The technique that will be used for data collection employs precision depth sounder and navigation systems aboard an outboard powered 19-ft Johnboat, in conjunction with vertical control to determine the elevation of the water surface at the time of the survey. Vertical control and water surface elevation data will be taken from the gages at the Don Pedro Dam, the Highway 120/49 Bridge and the Wards Ferry Bridge. The gages at the two bridges will be used to establish vertical control in the upstream portion of the Don Pedro Reservoir. Temporal and

spatial variations in water surface elevation throughout the bathymetric survey will be taken into account in the data processing as explained below.

Water depth will be measured using an Airmar B 258 1kW dual frequency transducer and a Foruno FCV-585 digital depth sounder (or equivalent), with a vertical resolution of 0.1 ft. The depth sounder will be deployed aboard the Johnboat that will navigate along predetermined transects. Transect locations may be adjusted in the field to accommodate shallow water, in-water structures, marinas, and/or recreational activities.

Soundings will be taken at approximately 1 second intervals and the boat speed will be set to ensure that bottom features will be appropriately sampled (typically, at least 1 sounding is taken for every 2 linear meters along the vessel track). The boat will be navigated using a differential Global Positioning System (DGPS), and the position of each sounding will be determined using the DGPS system. The DGPS will provide better than 1 meter circular positioning accuracy. All depth and horizontal positioning data will be recorded digitally in the field as a series of points with x-y-z coordinates, using a rugged field notebook PC running Hypack Hydrographic Survey software (or equivalent).

5.3.2.2 Reservoir Temperature Data

CDFG continues to collect monthly temperature profiles in Don Pedro reservoir and these data will be used as the primary dataset for the 3-D model's calibration and verification. As part of this study, reservoir temperature data will be collected concurrently with the bathymetric data to provide additional data sets for the 3-D model's calibration and verification.

Surface water temperature will ~~also be recorded-measured~~ concurrently with the bathymetric data and recorded digitally using the Hypack software. Temperature data will be collected using a Falmouth Scientific Ocean Temperature Module (FSI O TM). The accuracy FSI O TM is ± 0.005 degree Celsius temperature. Surface water data provide some insight into information about the variation in the reservoir's horizontal temperatures through the horizontal plane.

Vertical temperature profiles will ~~also be collected~~ at least one-time each at the six CDFG profile stations and one additional location just upstream of old Don Pedro Dam, to capture any influence of the old dam on reservoir temperature. During each week of surveying, water temperature profiles (along with dissolved oxygen), will be taken at the nearest ~~predetermined CDFG profile location or nearby locations. A weekly interval is sufficient because reservoir temperature is not dynamic enough to justify an increased frequency.~~

5.3.2.3 Water Surface Elevation Data

Reservoir water level elevations will be ~~verified-measured~~ throughout the study. Water surface elevations near the dam of the reservoir are routinely measured and recorded by TID. Water

surface elevation gages will be installed at two other locations, where benchmarks provide vertical control for combining all elevation data to a common datum: (1) Highway 120/49 Bridge and (2) Wards Ferry Bridge. All vertical control will be converted to match the vertical datum of the gage at Don Pedro Dam, which is NGVD 29. The three water surface gages will provide continuous data during the bathymetry survey for data processing.

5.3.3 Data Processing

5.3.3.1 Bathymetric Surface Development

The data will be processed using the Hypack software and exported to a table that can be imported into GIS. Elevation values for each point will be calculated in a spreadsheet by first correcting the depth of the reading to include the known submergence value of the transducer and then subtracting the depth of the sounding from the water surface elevation of the reservoir according to the nearest gage reading from the same day and time.

Remotely sensed data will be used to supplement the bathymetric data collected in the field. Previously obtained Digital Terrain Model (DTM) data will be integrated with the bathymetric model. These data were collected in August of 2004 by the vendor Intermap using interferometric synthetic aperture radar (IFSAR). The water surface of the reservoir at the time the DTM data were collected was 760 ft and the DTM data extends upwards to well above the Project Boundary elevation. The DTM will assist with defining the reservoir geometry at water levels above that obtained by the bathymetric survey. In the instances of overlap in the topographical elevations of the DTM and elevations covered by the bathymetric survey, the DTM will provide information that may assist in the interpolation of the surface in between the transect points collected in the field.

A contour line at maximum water level will be generated using a GIS contouring tool with the DTM. It will be visually checked and modified as needed using a horizontally more accurate high-resolution aerial image. The field collected points, the DTM surface data below the high water contour and the maximum water contour will then be used to interpolate a reservoir geometry model in GIS.

The bathymetric survey elevation data will be developed by using the ESRI geoprocessing tool “Topo to Raster”. Contours will be developed from the surface using ESRI contouring tools and displayed at an appropriate resolution for the maps that will be included in the final report.

5.3.3.2 Temperature Data Processing

Surface water temperature data and temperature profiles will be used to assist in the 3-D temperature model calibration/verification. In addition, Ssurface water temperature data will be plotted and contoured using Surfer (by Golden Software). Temperature data collected during

time intervals of two to four hours will be mapped separately to constrain the diurnal temperature variation and provide a “snapshot” of surface temperature. The resulting temperature contours will be shown on a series of maps of the reservoir.

~~Temperature data collected during time intervals of two to four hours will be mapped separately to constrain the diurnal temperature variation. The resulting temperature contours will be shown on a series of maps of the reservoir.~~ Vertical temperature profiles will also be plotted and a map showing the location of the vertical profiles will also be produced. ~~Surface water temperature data and temperature profiles will be used to assist in the 3-D temperature model calibration.~~

5.3.4 Quality Assurance/Quality Control

Data quality will be assured through following manufacturer's instructions and periodically verifying data values through an alternative measurement. Throughout the survey, the depth measured by the sounder will be periodically compared to the actual depth. The actual depth will be measured by either lowering a “bar” beneath the sounder or by direct measurement of the bottom with a lead line or pole. Measurement of the “draft” or the depth from the water surface to the face of the transducer will also be recorded. All measurements will be recorded in the field notebook.

Quality Assurance will be performed by an independent reviewer. A three step approach will be used for quality assurance of the bathymetric survey data. The first step is a review of the field methods and materials. The second step is checking the edited raw data. Finally, the methods used in the production of the final deliverable will be checked.

Review of field methods will include a check of any “bar checks” performed in the field. A bar check compares the depth measured by the sounder to the actual depth, measured physically. The specifications of the sounder and GPS used in the survey will be reviewed to confirm the accuracy of the data as reported. The water surface elevation data at the three gages will be checked for consistency.

The next step is to check the processing of the raw data. Any data with GPS error or sounding error that were flagged accordingly and deleted prior to contour plotting will be checked to confirm that the deletion was appropriate. Soundings will be spot checked for consistency. The crossing of transects and tie-lines will be reviewed to ensure that the sounder recorded similar depths at the intersection of survey lines. If any sharp differences in depth at adjacent points are present, they will be identified as either an error or a real feature.

The last step is a check of the final deliverable. Once the field methods and raw data have been reviewed, the production of contours or a bathymetric surface relative to a known datum will be checked. Calculation of the bottom elevation from sounding depths will be reviewed to ensure

corrections for the draft and water surface elevation were properly accounted for. The method of interpolation and setting used to in the interpolation will be reviewed to ensure that reasonable contours are generated. Contours created using interpolation will be checked against actual soundings to verify that the interpolated surface is reasonable. Finally, contours will be checked against any previous studies for consistency.

5.3.5 Documentation and Reporting

A report will be developed that documents all methods and results. Contours derived from the use of the bathymetric and IFSAR data will be displayed in maps of appropriate scale. Maps showing coverage of the depth sounding points will also be included. In addition to the maps, a table showing area and storage volume for each two-feet of reservoir elevation will be developed and included in the report. Storage volume will be plotted against elevation and compared graphically to the reservoir area-capacity curve presented in the PAD. Vertical temperature profiles and sample surface temperature plots will also be provided.

6.0 Schedule

Surveys are planned to be completed during the months of May and June, 2011. IFSAR data has been obtained. Data compilation and mapping will occur from June through September, 2011. Final checking and review will occur in October and November, 2011 and final maps produced by the end of 2011.

7.0 Consistency of Methodology with Generally Accepted Scientific Practices

The methods presented in this study plan are consistent with those used in recent relicensings in California including most recently for the Merced Irrigation District's Lake McClure and McSwain Reservoir. Additional surveys with similar methodology include the Yuba-Bear/Drum-Spaulding Project's Lake Spaulding, Rollins Reservoir, Bowman Lake, Jackson Meadows Reservoir, Fordyce Lake, and Lake Valley Reservoir.

8.0 Deliverables

The Districts will make the draft report available to relicensing participants following internal quality assurance review. The final report will be provided along with the elevation and temperature data in GIS files. These GIS files will be used in developing the 3-D Temperature Model.

9.0 References

ESRI ArcGIS 10 <http://help.arcgis.com/en/arcgisdesktop/10.0/help/index.html>

Golden Software Surfer <http://www.goldensoftware.com/products/surfer/surfer.shtml>

Intermap <http://www.intermap.com/>